Textile World

VOL. 85, NO. 12—ESTABLISHED 1868

CONTENTS NOVEMBER, 1935

DOUGLAS G. WOOLF
Editor

William B. Dall.....*Managing Editor*
Edwin D. Fowle.....*Associate Editor*
Winn W. Chase.....*Assistant Editor*
John Black .....*Assistant Editor*
James A. Austin...*New England Editor*
William G. Ashmore...*Southern Editor*
Paul Wooton. *Washington Correspondent*

A. P. GUMAER .....*Manager*

MANAGEMENT

For Better . . . or for Worse (*Editorial*) 67
The Editor Says 68
The Editor Presents, This Month and Next 69
Profits Suggested as Possibilities at C.T.I. Meeting 72
Social Security Discussed at N.A.C.M. Meeting 74
Highlights from the Month's Textile News 76
A Six-Point Plan for Rayon Weavers in 1936 82
Letters to the Editor 98

MERCHANDISING

Japan's Textile Growth; Sudden Rise in Wool Goods Export .. 80
Bathing Charms at Best in 1936 Swim Suits 81
Effort to Boost Exports by Subsidy Plan 82

MATERIALS

Coordinated Research Program for Better Cotton 86
Alkalies and Wool—Cutting Scouring Costs 87

MILL ENGINEERING

Power—How Much Does It Cost You? 77
Adds Humidification in Continuous Modernization Program .. 93
New Machinery and Processes 114

MEN

Textile Personalities 70
Murchison, New Head of Cotton-Textile Institute 71
Anthrax Is Preventable by Wool Sterilization 78

METHODS

When Warp Is Out, Fixer Should Check the Loom 83
Three Days of D-13; Simplification, Home Economics 84
Quality Yarn Stressed in Modernization Move 88
In Rib Knit Fabric, Which Is the Face? 90
Recovery of Chemicals Reduces Rayon Soaking Cost 92
Sinker Cam Adjustment for Reduced Waste 94
Spinning Wins Over Football at S.T.A. Meeting 95
Practical Hints in Printing with Aniline Black 96
Presoaking Silk Flat Crepes Aids the Boil-off 97
New Group of Cottons for 1936 Slacks Analyzed 99

DEPARTMENTS

The Overseers' Corner 108
Questions and Answers 110
Personal Page 112
New Machinery and Processes 114
New Publications and Business News 116
TEXTILE WORLD Analyst 107
Quotations 132

INDUSTRY BRANCHES

Cotton Digest 118
Wool Digest 120
Rayon Digest 122
Silk Digest 124
Knitting Digest 126
Processing Digest 128
Engineering Digest 130

McGRAW-HILL PUBLISHING CO., INC.
Bragdon, Lord & Nagle Division, 330 West 42d St., New York

Bragdon, Lord & Nagle Division

Henry G. Lord.....*President*
Frank L. Nagle.....*Chairman*
James H. McGraw, Jr.....*Treasurer*

McGraw-Hill Publishing Co., Inc.

James H. McGraw.....*Chairman of Board*
Malcolm Muir.....*President*
J. H. McGraw, Jr.....*Exec. Vice-Pres.*
Henry G. Lord.....*Vice-President*
Borden B. Putnam.....*Treasurer*
Donald C. McGraw.....*Secretary*

Branch Offices:

Washington.....*National Press Building*
Boston.....*1427 Statler Bldg.*
Philadelphia.....*16 South Broad St.*
Greenville, S. C.....*312 Woodside Bldg.*
Atlanta.....*1105 Rhodes-Haverty Bldg.*
Chicago.....*520 N. Michigan Ave.*
Cleveland.....*501 Guardian Bldg.*
St. Louis.....*455 Paul Brown Building*
San Francisco.....*883 Mission St.*
London, England...*Aldwych House, W.C. 2*

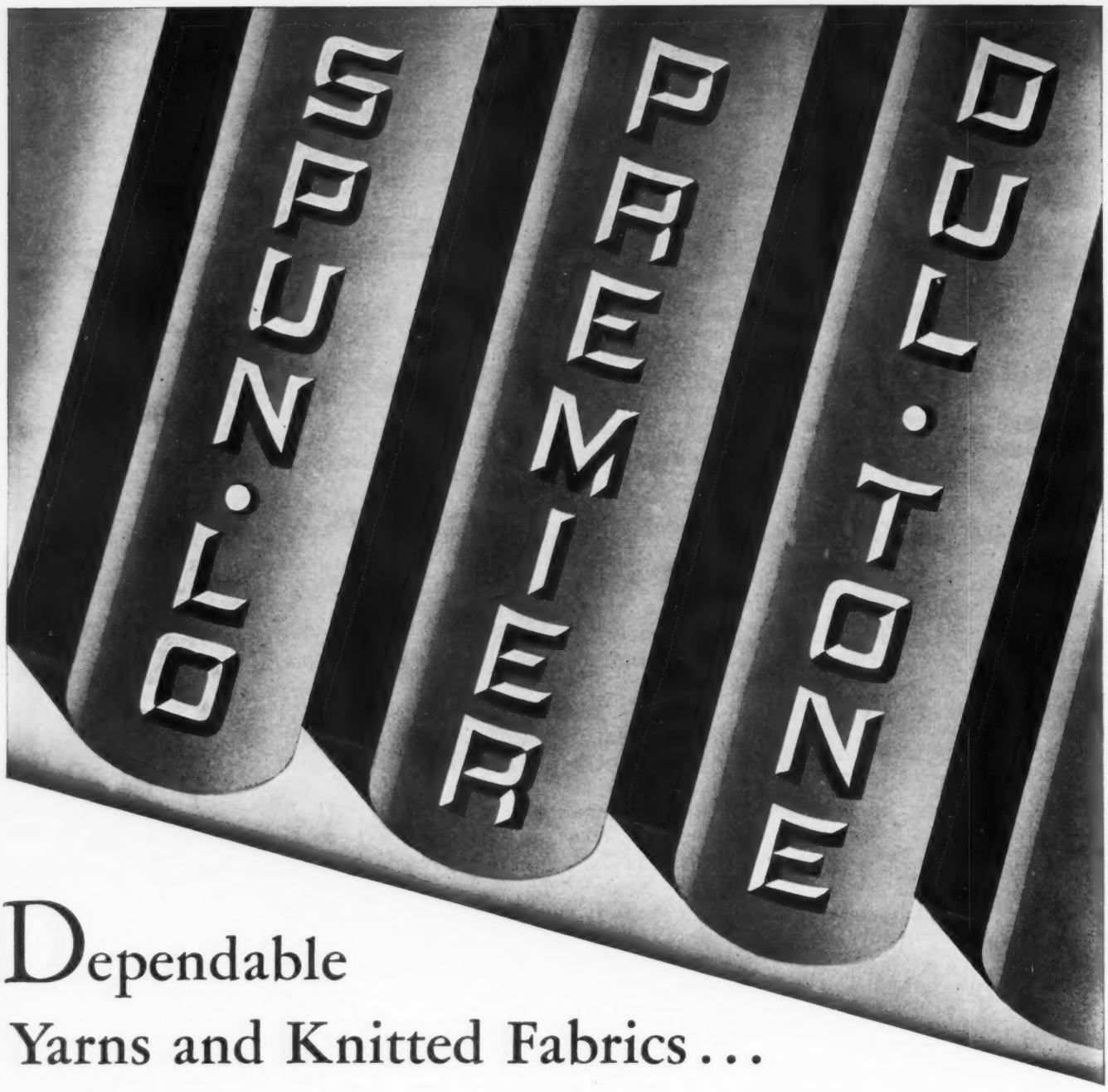
Copyright, 1935, by McGraw-Hill Publishing Co., Inc.

TEXTILE WORLD

(Formerly *Textile World Journal*) with which are combined *Textiles, Posselt's Textile Journal* and *Textile Advance News*. Published monthly, United States and Possessions, $3 per year; Canada (including Canadian duty), $3.50; all other countries, $5. U. S. currency or 20 shillings. Single copy, 35 cents, excepting special issues.

Of this issue 10,644 copies were printed.

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.



Dependable Yarns and Knitted Fabrics . . .

that help determine the worth of the finished product

◆ The yarns and knitted fabrics sold under the trade names of SPUN-LO, PREMIER and DUL-TONE are manufactured with the user's interests uppermost in mind—*for smooth, efficient mill operation.* They are always dependable—always uniform in quality. This character, plus the way they are advertised to the retail trade, helps determine the quality and *salability* of the finished article.

INDUSTRIAL RAYON CORPORATION · CLEVELAND, OHIO

Textile World

November, 1935

Editor: DOUGLAS G. WOOLF

FOR BETTER . . . OR FOR WORSE?

THERE seems to be a certain amount of curiosity among textile manufacturers as to how long the current improvement in volume and profit possibilities is going to last. Consequently we are advancing the date of our own participation in the annual indoor sport of "forecasting" the new year.

First, let's look at the 1935 record. Textile mill activity for the industry as a whole during the first three quarters of the year—based on consumption of raw material—was approximately 15% greater than that for the corresponding period of 1934. (Incidentally, we predicted at the start of the year that 1935 activity would be at least 10% over 1934. More about this later.)

Assuming—and we think it a fair assumption—that something like this percentage increase will hold for the year as a whole, this will mean that 1935 will be somewhat better than a "normal" year in textile volume—taking the 1923-25 average as "normal."

■

Now 1936 should be rated as an off-year under the two-year textile cycle theory to which many otherwise rational observers are addicted —including the present writer as a more or less recent convert. However we can take our cycle or leave it alone—and next year, we believe, demand for textiles will share in the general improvement in all business with the result that total mill activity will be greater than 1935, rather than less.

Certainly, every day there is a clearer indication that we are in for a period of industrial expansion. With the qualifying statement that we still have not solved any of the basic problems underlying the recent emergency, it is safe to say that we are moving out of the depression statistically and psychologically.

Consequently we feel confident that textile volume will continue to expand in 1936. Nevertheless, to be conservative, let's count on activity on a par with that of 1935.

If the industry, individually and collectively, hasn't yet put itself into shape to make money on a better than "normal" volume, it doesn't make much difference what the volume is anyway.

■

Is it in shape to make money?

The answer must be sought in two directions. One points toward the permanent long-range policies which are still to be formulated on wages and hours, demand-production balance, and other basic problems. We shall not discuss those here; they shall be the subject of our Annual Editorial Inventory in a subsequent issue. Suffice it to say now that the remarkable restraint shown during the last six months foreshadows eventual establishment of permanent and sane policies.

The other zone in which the answer must be sought is a much less complicated one—and yet one which seems more impossible of clarification than do some of those difficult phases mentioned above.

We are talking about price policy. In fact it always seems necessary to talk about price policy at this particular stage of this particular argument. No apologies are offered for the repetition.

We have a certain amount of pride in our ability to forecast—or shall we say guess—textile volume in advance. We hit it fairly accurately year after year.

But we have a blind side. For several years we have conscientiously predicted more *profitable* operation. On the whole those predictions have not been borne out. Apparently, we continually under-estimate the willingness of textile manufacturers to operate at a loss, year after year, without doing anything about it.

Just now, everything points to greater sanity in this connection. Events involving price policy which have transpired since mid-August, and to which we have referred on this page, promise much.

But we are getting wary. We shall pass back to manufacturers the question whether we are headed for better—or for worse—times. They are the only ones who know the answer.

THE EDITOR SAYS:

Brilliant Service Records

TWO men went out of presidential offices in the cotton textile industry last month. Each left behind a record of a high type of service at a particularly difficult time.

One was Goldthwaite H. Dorr, who stepped into the breach when George Sloan resigned as president of the Cotton-Textile Institute. For 10 months, much against his wishes and at considerable personal inconvenience, Mr. Dorr served not as a pinch-hitter but as a constructive leader in his own right. Fortunately, as chairman of the board, he will continue to contribute toward the solution of the cotton-textile problem. Also fortunately, his successor—Dr. Claudius T. Murchison—is the type who will extend the record of accomplishment of the Institute.

The other man was Ernest N. Hood. He has been president of the National Association of Cotton Manufacturers during the entire period covering the NRA and AAA. He has practically commuted to Washington. Through all the grief he has maintained a reputation as a modest, kindly, effective leader. Fortunately in this case also, he has a worthy successor—Frank I. Neild.

Happily for the industry, service of the Dorr and Hood type is not unique. For years individuals have been contributing time and effort in the rather thankless task of cooperative effort. To mention one more case which has come to public notice recently, Gerrish H. Milliken has served as treasurer of the Institute since its formation, and has just been relieved of that duty. The personal returns from this sort of work are negative; criticism is too often the principal medium of payment. However, knowledge of contributing to the steady progress of the industry toward sanity is the real reward.

■

A 10-to-1 Shot

GEORGE BERRY acquired a good reputation among textile manufacturers during his service on the old Bruere board. However we are afraid that his reputation at least for perspicacity will suffer as a result of his attempt, *at this time,* to stage a business-labor conference to consider the need for a new NRA.

The greenest cub reporter wouldn't be out on this assignment very long before discovering that industry just isn't having any of that today, thank you. Even most of those industrialists who were enthusiastic in NRA days, and those industries which saw a chance to get Government aid for the enforcement of principles they had desired for many years, are at least luke-warm, and more likely cold, to the proposition just now. That is a plain statement of fact, and has no bearing on anyone's individual opinion of the wisdom of a new NRA move.

We should think Mr. Berry, with his sources of information, could have sensed this fact. If he is kidding himself, or being kidded, it is just too bad. We don't care how many letters he has received endorsing a new NRA, or even a conference to consider one. We hazard the guess that for each one of those, there are 10 unwritten letters from men who think differently.

So much for the negative side. Despite all this, we strongly advise anyone who has received an invitation, to go. We have encountered an attitude of complete indifference. If that is indulged in, the conference will be "packed" with those in favor—and the opposition will not have been made articulate.

Let us emphasize the fact that personally we believe a new plan must eventually be devised to provide Government backing to industries who want to govern themselves.

But at the same time we think now is just about the worst time to get any interest or support for this.

Realism helps occasionally. So does timing.

■

Make Sure It IS *Dead!*

ONE group in the industry—the majority group, incidentally—thinks the Ellenbogen bill hasn't the chance of the proverbial snowball. Another group—a very small minority—fears that the bill may be picked up by the Department of Labor, given the Administration stamp, and pushed through the next session. The Ellenbogen bill, we may have to remind you, is backed by the U. T. W. as a means for regulating the textile industry. It was introduced toward the end of the last session.

We made a few inquiries in Washington recently. We found that one of the principal reasons advanced by those expecting Administration approval was the fact that an individual in one of the Government departments—a lawyer—had cooperated in the writing of the bill. We were informed, however, that this individual would be the first to repudiate it as it finally developed; and that, as a good lawyer, he would be ashamed of it now. Whether that is true or not, we do not know. However, we do know that responsible officials—including those sympathetic to labor—consider the bill too "lousy"—to quote one of our informers—and too one-sided to warrant serious consideration. There seems to be no expectation that the Administration will pick it up.

We write the above as a reporter. As an editor, we would add the advice that the industry shouldn't be content to take anybody's word for the fact that this monstrosity of a bill is dead.

■

Not Even Clever

WHAT amazed us about the disinclination of the Secretary of Agriculture to utilize the export tolerance possibilities of the amended AAA, was the fact that this refusal was such poor politics. No negative reason advanced by the Secretary had any real importance. On the other hand, here was a perfectly legal way at hand by which relations with an industry could be—"sweetened," shall we call it? [And a little sweetening could be used right here.] Nevertheless, the Secretary seemed to be prepared to ignore this opportunity.

Even as a rank novice in politics, we were shocked at this ineffective performance by a member of an Administration which has been credited—by its enemies at least—with some knowledge of the game. Consequently, we are relieved to be able to report that a change of heart seemed to be taking place as we went to press—and that the Secretary was at least willing to discuss the matter . . . . Possibly someone showed him a calendar.

THE EDITOR PRESENTS:

This Month

Something New:
We're trying a new stunt: Personality Sketches, on page 77. It's the product of several wandering reporters and photographers. We hope to continue it, unless we are sued for libel by someone who is analyzed on the page, or shot by someone who isn't.

A Noble Heritage:
Dr. C. T. Murchison, new president, of the Cotton-Textile Institute, is the fourth in a line of succession which has included Walker D. Hines, George A. Sloan and Goldthwaite H. Dorr. The background of the new president is sketched on page 71.

Talk, Food and Movies:
This was the order of proceedings at the annual meeting of the Cotton-Textile Institute. Details commence on page 72.

Social Security:
If the interest shown in this subject at the National Association of Cotton Manufacturers convention can be used as a criterion, readers should flock to our report of this meeting on page 74.

How Much?
Have you any interest in how much your power costs? Ralph Loper gives you some averages to check against, on page 76.

The Anthrax Peril:
The request of a prominent carpet mill which had lost its wool buyer as an anthrax victim led to the development of the preventive measures reported on page 78.

Japan Again:
The growth of Japan's woolen and worsted industry is of real interest to our industry now that Jap worsteds are being offered in the N. Y. market (see Oct. T.W., page 114). It is still growing. Our story in this issue (page 80) gives figures on looms and spindles. Also we offer data on the modernity of cotton spinning mills.

The Water's Fine!
Knitters, weavers and textile chemists have combined their efforts to make the 1936 bathing-suit a thing of beauty and a joy forever. (Page 81.)

Export Tolerance:
A dinner and a personality. The latter, Sam Lamport; the former at Commodore, New York. Man power of cotton textile industry marshalled to get results from three words in AAA amendments — "and their products." (Page 82.)

What Women Want:
Committee D-13 joins forces with the ladies and at a home economics symposium learns what the consumer desires in textiles. (Page 84.)

Alkalis and Wool:
Strange as it may seem, under certain conditions even caustic soda appears to have no injurious effect on the tensile strength and color of the wool fiber. Results of a recent investigation show just where the danger point is in treating wool with alkaline solutions. (Page 87.)

The Mill Is Modern:
An extensive and very creditable job of renovation has been undertaken by the American Yarn & Processing Co. Details on page 88.

How Are Your Ribs?
Many a designer of jersey-type knit fabric is at a loss when it comes to rib designing. On page 90 Mr. Cahill points out the new things such a designer has to learn.

Only One Out of Six Has It:
With less than 15% of the woolen mills equipped with humidification systems, it is news when Kezar Falls Woolen Co., installs this type of apparatus in its card room, spinning departments, and finishing department. (Page 93.)

Looping the Loop:
The seamless-hosiery knitter is offered on page 94 some very practical advice on adjusting sinker cams so that the loops will be properly formed and knocked over. Important for reverse-plating.

Forty-two Legs:
Twenty-one pairs of legs are shown on pages 99 to 102, and each pair is covered with a fabric destined for somebody's slacks or summer suiting when winter goes. The demand for such fabrics is reaching large proportions. Most are cotton, but some are spun rayon.

■

Next Month

Picker-Lap Evenness: A surprising number of things can cause irregularity in cotton picker laps. A practical trouble-shooting article on this subject next month.

Cotton-Wool Suitings: Illustrating some new "woolens" for boys, with details on construction and manufacture.

Slipping at Seams: The Bureau of Standards has some important recommendations to make for testing this property of fabrics. Of interest to silk men next month.

Elastic Knit Goods: A brand new—possibly revolutionary—development in the knitting of fabrics containing rubber. We are afraid you will have to wait until next month.

Broader Markets: They have not yet begun making knitting machines out of cotton waste, or typewriters out of rayon staple—but don't be too sure they won't some day. The current picture of new uses for textiles is an impressive index of what imagination plus the chemist's ingenuity can do to widen markets for textile products. It would spoil the story to give you in advance the details of what outlets are being found. These will be described and illustrated in the December insert.

Brainy Buying: Reducing costs in a hosiery mill by applying common sense principles to purchasing problems will be discussed in one of next month's articles.

New French Woolens: They show diversity and willingness to incorporate any additional fiber such as shredded Cellophane, bear's hair, rabbit hair, staple fiber, etc.

■

Last Month

Revitalize!

PHILADELPHIA, PA.

Editor, TEXTILE WORLD:

Having read the article "NO PARKING!" allow me to suggest the term "REVITALIZE."

WILLIAM M. CATHRALL,
Cathrall & Co.

[*Editor's Note:* In the editorial referred to, we said: "We need a new term. For years, industry has heard about 'obsolescence' and its cure 'modernization.' Excellent words though they are, they do not tell the whole story. There is a combination of new equipment, new processes, new materials, new ideas, in this industry which demands a many-sided approach to management revision. We haven't found the term we want for this approach. Possibly one of our readers will have a word for it."]

Cotton Roads

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

Your pictorial treatment of Cotton Roads in your October issue is indeed a grand presentation and I am hopeful that it may fire the imagination of some of our constituents manufacturing coarse cotton goods. This is a real idea, I honestly believe, that can easily be put over with some concentrated effort on the part of cotton manufacturers themselves. In any event, I am grateful to you for your interest and assistance.

CHAS. K. EVERETT,
New Uses Section,
Cotton-Textile Institute.

THIS AND THAT

Highlights from the month's news

Textile School Deans Meet

ONE of the important results of the survey of textile education undertaken by F. M. Feiker under Textile Foundation auspices has been the close cooperation developed among the deans of the various institutions. Another manifestation of this was the conference of this group held in Stockbridge, Mass., Oct. 22-24. Outside speakers included Floyd W. Jefferson, of Iselin-Jefferson Co.; Dr. Richard F. Bach, of Metropolitan Museum of Art; and Stanley B. Hunt, of Textile Economics Bureau. These papers and other subjects were discussed by the deans. The purpose of these semi-annual conferences is to bring together the ideas and thoughts of those in charge of the school, and to discuss mutual problems with a view to improving mill education to conform with mill needs . . . . . In addition to the deans, the outside speakers, and Mr. Feiker, there were also present Franklin W. Hobbs and E. T. Pickard, chairman and secretary, respectively, of the Textile Foundation.

The Philippine Agreement

IS the "friendly agreement" negotiated by the State Department with Japan limiting shipments of cotton textiles into the Philippines another case similar to the lead-pencil agreement which, as we stated in these columns recently, left that industry with the feeling that it had been "sold down the river"? From remarks made by Harry Bailey, of Wellington Sears Co., who has been one of the most zealous protectors of the textile industry's interests in matters of foreign trade, that seems to be quite possible. Briefly, Mr. Bailey points out that, assuming an annual market in the Philippines of 100,000,000 sq.met., the agreement gives Japan a 1935-36 market for 113,000,000 sq.met., leaving only 87,000,000 sq.met. for those two calendar years, of which at least 10,000,000 will be supplied by other countries, 77,000,000 will come from this country, and over 20,000,000 sq.met. of the latter quantity will be in embroidery cloths which will be returned to this country. In other words, he states, there would seem to be a potential market of not over 28,000,000 sq.met. per year for American cotton textiles in the Philippines during 1935-36. "Let us hope we may be spared another agreement like that on the Philippines," he exclaimed at a recent meeting . . . . . Moreover, the experience of the industry's committee confirms the impression of star-chamber proceedings conducted by the State Department. Mr. Bailey found that department willing to discuss the situation when his committee called there Oct. 4, but unwilling to disclose details of the negotiations with Japan. The next morning the papers carried the surprising news that the committee was satisfied with the arrangements. That's a good trick if you can do it but rather difficult in view of the fact that the committee didn't know, until the State Department's announcement Oct. 12, what those arrangements were.

Dress-Fabrics Standards

THE much discussed and long-debated "Recommended Commercial Standard for Testing and Reporting Woven Dress Fabrics" has at last gone to letter ballot. Copies of the standard have been sent out by the U. S. Bureau of Standards to testing laboratories and to producers, distributors and users of woven dress fabrics. As noted in these columns, the standard was revised and recommended for ballot after a hot discussion meeting in New York Sept. 27. The argument there reflected plenty of difference of opinion as to sections of this standard. The only point on which there would seem to be no room for honest difference of opinion is the necessity for an industry-wide expression on this matter. Consequently we urge everyone identified with the branches of the industry concerned to register his vote. As to how you vote, let your conscience be your guide.

Sloan on Government Regulation

SELF-REGULATION by industry—if regulatory legislation is needed at all—with industry proposing the rules subject to government veto, offers the best hope for "tomorrow's business," according to George A. Sloan, former president of the Cotton-Textile Institute, in an address before the American Bakers' Association. Although he did not refer specifically to the current efforts of the skeletonized NRA to develop the basis for new industrial regulatory legislation, Mr. Sloan obviously had them in mind when he suggested: "I am convinced that in any future legislation for industrial regulation, industry should be given the power to initiate proposals and the government's power should be limited to that of veto. Thus neither government nor industry is absolute. Each must respect the other. True partnership rests on such an equality of operation and, in the final analysis, the success of any such legislation must rest on the sincere cooperation of industry." Reviewing the cotton textile industry's experience under its code, Mr. Sloan recalled the increasing tendency, in the latter days of NRA, "to impose changes by executive order and less inclination on the part of the Administration to listen to the recommendations of industry," until, he continued, "instead of the industrial self-regulation which we had envisioned, we found ourselves floundering in a bog of bureaucracy."

"Wool from Skimmed Milk"

THERE was an epidemic of headings such as the above in the daily papers last month. What they meant was that Antonio Ferretti, Italian scientist, announced that he had succeeded in producing synthetic wool from casein. Our Rome correspondent reports that it has the same warmth-retaining qualities as natural wool—and implies that it really represents the synthesis of a material chemically similar to wool, instead of another cellulose product, such as previous "artificial wools" have been . . . . . Whether that is so or not remains to be seen . . . . . Our correspondent describes the method as follows: The liquid casein, remaining after butter has been produced from the whole milk, is treated with certain chemicals. The resulting mixture is then put through the same mechanical process used for producing staple fiber. Standard wool spinning machinery is used for producing the yarn . . . . . Ferretti presented the first "handful" of the new fiber to Il Duce . . . . . And, of course, we have the fireproof fabrics made of glass yarn, recently developed by the Owens-Illinois Glass Co. Nothing is safe from the textile industry nowadays.

Miscellany

A MOVEMENT is on foot, sponsored by chambers of commerce and other organizations in New England, having for its objective the rehabilitation of industries in that section. This sounds like a constructive idea and the fact that such committees have been getting pretty realistic in New England lately gives hope that something may be accomplished . . . . .

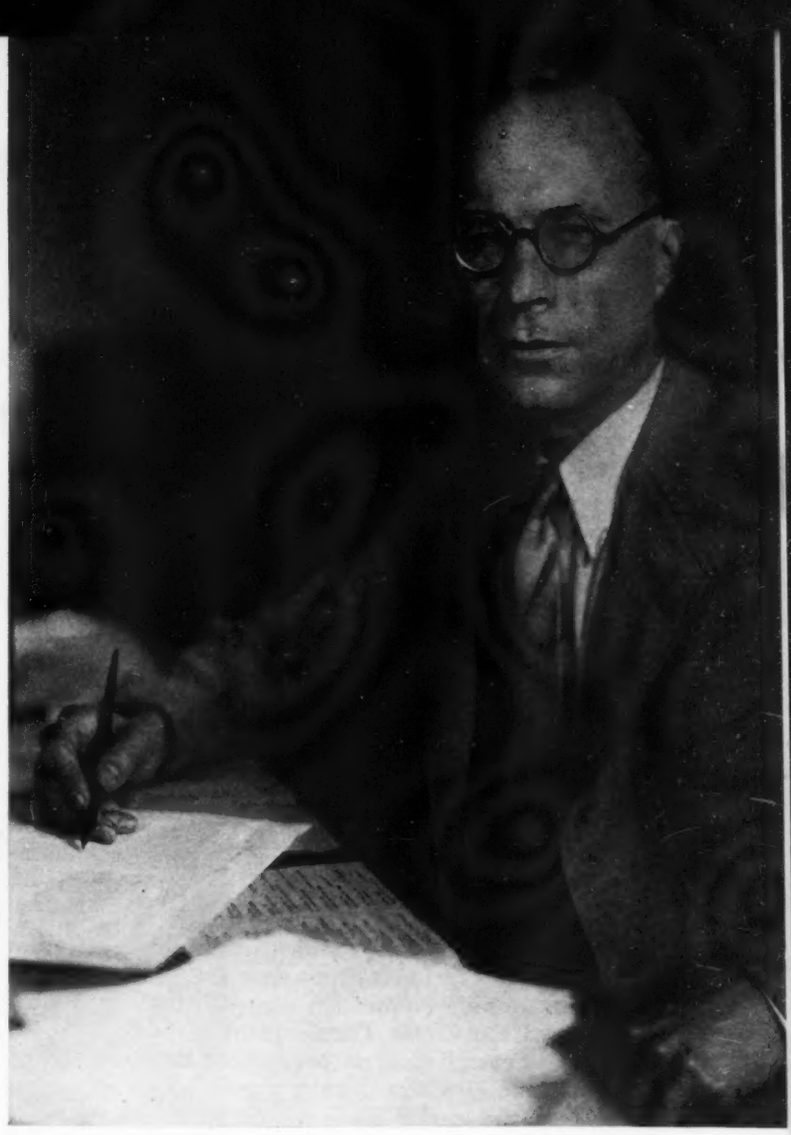
The great problem of the cotton textile industry is one of control of over-capacity rather than control of production, stated B. B. Gossett, president of Chadwick-Hoskins Co., at meeting of the Piedmont Section of the American Association of Textile Chemists and Colorists, Nov. 9. Excess capacity is what brought about the ruinous losses for the industry prior to the code, he stated . . . . .

In order to increase the domestic supply of raw material for its large woolen and worsted industry, Japan is endeavoring to stimulate production of sheep throughout the Empire . . . . . Turkey's first cotton mill recently commenced operations. Comprising 33,000 spindles and 1,050 looms, it will make both staples and specialities. Three other cotton mills are planned . . . . . Brazil's spinning and weaving mills have increased their consumption of cotton progressively for six years.

MURCHISON

New head of Cotton-Textile Institute

"If the textile industry is to conform to those management axioms which have proved so important a factor in the prosperity of other industries, there is no alternative to its complete reorganization along the lines of vertical integration."



THE above is from the book "King Cotton Is Sick," by Dr. Claudius T. Murchison who was then (1930) professor of applied economics at the University of North Carolina. Last month Dr. Murchison was elected president of the Cotton-Textile Institute, succeeding Goldthwaite H. Dorr who had long sought to be relieved of the interim appointment he accepted upon the resignation of George A. Sloan 10 months ago.

It will be interesting to learn whether Dr. Murchison will see an opportunity, in his new capacity, to apply his belief in vertical integration which represented the main thesis of his book on the cotton textile industry. Just now he is not making recommendations. When we saw him in Washington shortly after his appointment, he seemed to be anxious first to re-orient himself to the industry with which he will be identified so prominently in the future.

For the last year and a half—that is, since May, 1934—he has been taking in a broader sweep of industry as director of Bureau of Foreign and Domestic Commerce.

Dr. Murchison is the son of a pioneer Baptist preacher who, in 1886, cut out a little clearing in the then wilderness territory just west of Hickory, N. C., and established there an academy and a church. There Dr. Murchison was born in 1889.

He completed his high school work in Louisville, Ky., and under-graduate college work at Wake Forest College, punctuating the educational period with a year or two of labor in a furniture factory, where he learned to do everything from operating a cut-off saw to putting the final coat of varnish on a bedroom set. In college he was on the varsity football, track and debating teams. He then taught in the Franklin (Va.) High School as assistant principal for two years, after which he went to Columbia University for three years, completing there the requirements for a doctor's degree.

Shortly after leaving Columbia, he married Constance Waterman of DeLand, Fla., and became a member of the faculty of Miami University, Oxford, Ohio. After two years there he came to New York, and taught at Hunter College for two years, and then at New York University for another year. During these years, he was also attached to the staff of the New York *Journal of Commerce*.

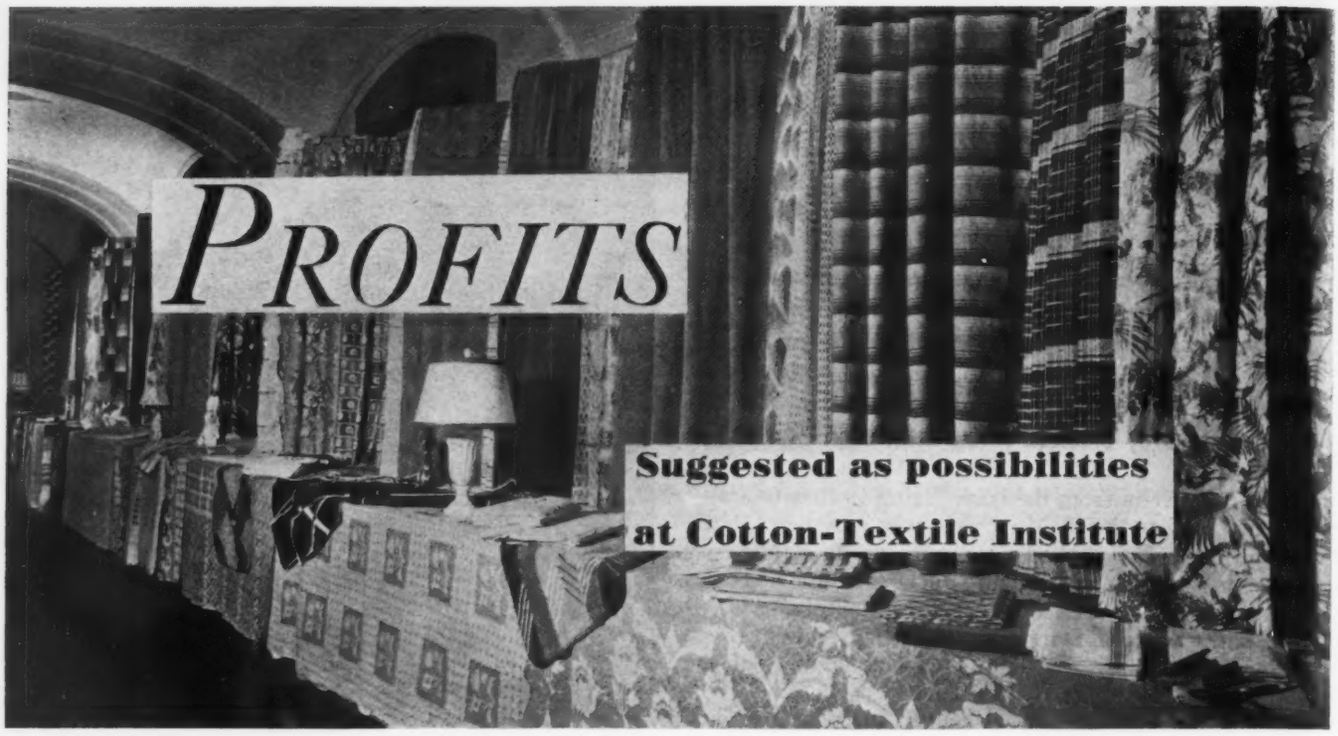
He went to the University of North Carolina in 1921 as Associate Professor of Economics; was made a full Professor a year later, and had an unbroken period of service there until the spring of 1934. While in Chapel Hill, he supplemented his class-room activities by a great deal of outside field work, depending much more upon his personal association with business men and his personal observation of business activities, to advance his knowledge of economics, than upon conventional reading and research. Such was the method he followed in writing both of his books—"Resale Price Maintenance" and "King Cotton Is Sick."

Vice-Presidents Reelected

The two vice-presidents of the Cotton-Textile Institute —Robert E. Henry, of Dunean Mills, Greenville, S. C., and Frank I. Neild, of Neild Mfg. Co., New Bedford, Mass.—were re-elected at the meeting of the board of directors following the annual convention. Paul B. Halstead, was re-elected secretary and was also named treasurer, succeeding Gerrish H. Milliken, who retires from that position.

The following were elected members of the executive committee: Robert Amory, Harry L. Bailey, S. Marshall Beattie, Colonel G. E. Buxton, Charles A. Cannon, John H. Cheatham, A. E. Colby, Donald Comer, Stuart W. Cramer, J. Choice Evins, Ernest N. Hood, Harvey W. Moore, Fred W. Symmes, Robert R. West.

Directors to serve three years include: Robert Amory, Howard Baetjer, Harry L. Bailey, Herman Cone, Sidney P. Cooper, Stuart W. Cramer, Norman Elsas, J. Choice Evins, B. B. Gossett, R. L. Harris, George Lanier, John A. Law, Russell H. Leonard, K. P. Lewis, Allan McNab, George V. Meehan, Gerrish H. Milliken, Marshall P. Orr, A. R. Pierce, George A. Sloan, Clifford Swift, Fred W. Symmes, George R. Urquhart, George R. West, Jr., Robert R. West. Directors to serve one year: W. N. Banks and R. H. Freeman. Director to serve two years: A. K. Winget.



APPARENTLY the cotton textile industry has about made up its mind to demand a profit. It also seems to feel that happy days are here again. At least that was the impression one got from the annual meeting of the Cotton-Textile Institute in New York, Oct. 23. Several speakers emphasized this dual theme.

"I have an idea that there is a growing disinclination to produce and market goods without a fair return," said Goldthwaite H. Dorr, president of the Institute. And, later, he said: "I have a feeling that, with the general revival of confidence and business activity of which we begin to see the signs all around, this industry is in for a better time."

"I feel full of enthusiasm and hope," said W. D. Anderson, president of Bibb Mfg. Co. "We are already experiencing a distinct improvement in the demand for our products. Now we must begin the rebuilding of the desire to make a profit in our business."

"It seems to me that we can be decent and fair and ethical, and ask for a fair return on the investment and effort and hazards involved," said Thomas H. Webb, president of the American Cotton Manufacturers Association. "We are emerging—we are progressing. We must look forward with confidence—and 'we' means all of us."

For the capitalization of these better times, the industry seems determined to present a united front, through the agency of the Cotton-Textile Institute. Both Mr. Webb, speaking for the South, and Frank I. Neild, speaking for New England as president of the National Association of Cotton Manufacturers, emphasized the unity of purpose existing between the two sections. The National Association, Mr. Neild said, is heartily in accord with the aims of the Institute and is working with it in its present programs.

One of the principal ways in which the Institute will pursue its objectives is through a return to group activity. Mr. Dorr emphasized this during his address, and George A. Sloan, past-president of the Institute, warmly endorsed the suggestion and remarked that everything worthwhile had had its genesis in the groups and that the industry must get back to such organization.

The net impression which this observer secured from the meeting was that of a militant and purposeful industry organized effectively to get a share of the rewards of better times for itself and its workers.—*Editor.*

Dorr Sees Better Times

GOLDTHWAITE H. DORR believes that the cotton textile industry is changing from one which did "not seem to have the will to make a profit" — to quote his predecessor, Walker D. Hines—to one in which there is a growing disinclination to produce and market goods without a fair return. This was the keynote of Mr. Dorr's address at the annual meeting of the Cotton-Textile Institute held last month.

"There is no need for any industry to apologize for a determination to make a profit," he said. "Quite the reverse —any industry in order to render proper service, not alone to its stockholders but to its employees and the public as well, must of necessity keep itself out of the red. . . . If, over a reasonable period in any given industry, efficient operation fails to yield a profit, then the competitive system is not soundly performing its function.

"As a result of the war and as a result of going from single into multiple shift operation, the physical capacity of the industry expanded beyond what a diminishing consumption has been able to absorb. Moreover, the function of production and the function of selling have been too widely separated, both physically and psychologically. There has been an absence of effective understanding and cooperative direction.

"During these years the industry has shown in several major matters a remarkable ability to cooperate for what was conceived to be the general welfare. There was the voluntary effort to limit the day shift to 55 hours and the night shift to 50 hours. There was the effort to eliminate night work of women and minors. Then came the depths of the depression and the emergency effort resulting in the fundamental changes of the code.

"With the decision of the Supreme Court invalidating the NRA, the structure of law which the industry had laid down for itself went by the board. . . . Sentiment crystallized for the maintenance of what had come to be the accepted customs in the business as to wages and hours. It was not a matter

Display of fabrics in heading-illustration on opposite page is part of excellent exhibit arranged at annual meeting of Cotton-Textile Institute by New Uses Section.

of Institute determination, it was not a matter of the determination of any other association in the industry, it was a matter of individual determination that this was the sound course to pursue under the circumstances. As a result, the maintenance of those standards has been general. Departure has been sporadic.

"No matter what particular adjustments may be made now, or may be found necessary or useful in the future, the basic changes effected at the time of the code are bound to exercise a permanent influence on the way our business is conducted.

"The Supreme Court decision came at a time when it was not easy to maintain the existing schedule of hours and wages. Prevailing prices and demand were at a low ebb. Sales below cost were the rule in almost all branches of the industry.

"Of course the cutting of wage costs, leading as it would to destructive wage competition, would give no permanent relief and fortunately the industry has turned to the solution of the real problem, namely, securing a fair price for its product. . . .

"I cannot close what I have to say today without a personal word. The short period for which I originally undertook your presidency has long since expired. In the difficult transition interval through which the Institute and the industry are passing, that period has from time to time been prolonged. But I feel that the transitional phase is now ended and that it is not merely a matter of my own personal desires but of definite importance for the industry that the Institute select as permanent president someone who is in a position to plan for years ahead in developing the service which this organization can render the industry."

Parkinson Flays Administration

THE attitude of the industry toward the policies of the present Administration was dramatically reflected when those at the Institute meeting arose and applauded to the echo the attack made on those policies by Thomas I. Parkinson, president of the Equitable Life Assurance Society.

"Government is nothing but an agency of business and the other interests of the people to do that which the people cannot do without an agency like Government," said Mr. Parkinson. "Government is not a substitute for the people—Government is not an institution which is above control of the people—it is an agency of the people.

"A few years ago, in this country, and I am sorry to say before the beginning of the present Administration, the leaders of public opinion in this country made a fundamental error in getting away from that very simple proposition which has always been good political theory, good constitutional law, good common law. The error that was made was in teaching the people to believe that the Government, as an agency, could do something that they could not do for themselves—and especially in the field of economics and finance. That is a false idea of government and it has failed and the people know it has failed.

"What I am here to suggest to you this morning is this: that if business is to be properly represented in this country of ours, you and I, making use of such agencies as this association and its executive staff, have got to come out in the open and exercise our influence as our forefathers exercised it in the formation and the building of this country.

"The first duty of Government is to provide security for the results of enterprise. Instead, the enterprising have been bedeviled and their performance made unnecessarily difficult by a false emphasis on another kind of security.

"As a business man I do not intend to allow measures and policies which are detrimental to the interests which I represent to bring about disappointment to those interests or failure for me without doing my damnedest to bring the measures and the policies and the personnel and the organization and the administration of government back to a sound, reasonable and sensible basis."

Benjamin Frenkel

The above exhibit of the progressive stages of laying a road with cotton-fabric binder was displayed in the ante-room adjoining the hall where the Cotton-Textile Institute held its annual meeting. The two-ton specimen showed successively the prepared sand surface, the first tar coating, the cotton-fabric layer, another tar coating, the crushed-stone layer, the last tar coating and the final steamroller finish. The panel in the background presented newspaper clippings on the cotton-road story for two weeks, representing a circulation of nearly 13,000,000.

"Sentimental Jag" Is Over

REFERRING to the NRA, Lew Hahn, former president of the National Retail Drygoods Association, said at the Institute meeting: "We have had our sentimental jag. We have had our bender. We have gone off the road. We have come to the point where we are willing to cooperate. There are only two kinds of government. One is the government under which men do things with the promise of reward and the other is the type of government under which men do things through fear. There is no middle course.

"It is the supreme hope that we have sufficient ability to reorder things and to eliminate all of the injustices and unfairness of life. Business is not Public Enemy No. 1. It is not Public Enemy No. 2. Business is nothing more nor less than the orderly arrangement of the common things of life."

Resolutions on Foreign Trade

TWO resolutions, dealing respectively with exports and imports, were presented by Harry L. Bailey, president of Wellington Sears Co., and unanimously adapted by the meeting.

The first requested the Secretary of Agriculture promptly to exercise the authority vested in him by Section 32 of the amended AAA, and to allocate from custom receipts, such sums as may be necessary and appropriate to balance, on the exports of American cotton textiles, the increased NRA labor costs undertaken pursuant to national policy.

The second resolution urged that the proper governmental agencies promptly and effectively make use of the powers conferred by the amendments to the AAA, either directly or indirectly through voluntary arrangements, to limit importations of low-cost and competitive cotton textiles from Japan into the United States.

Another feature of the meeting was the remarkable exhibit of outstanding uses of cotton arranged in a room adjoining the meeting hall, under the auspices of the New Uses Section of the Institute. Part of this exhibit is shown in the heading on previous page.

Social Security

Discussion brings out sharp contrast at colorful N. A. C. M. convention

THE average cotton manufacturer knows very little about the social security legislation passed by the last session of Congress. The average cotton manufacturer wants to know a great deal about that legislation. This was one of the outstanding impressions gained at the annual convention of the National Association of Cotton Manufacturers in Boston, Oct. 17, where John G. Winant, chairman of the Social Security Board and ex-Governor of New Hampshire, and Arthur D. Smith, Jr., of the Chamber of Commerce of the United States were bombarded with questions.

Incidentally, the contrast between the two men was dramatic: Gov. Winant, the student type, diffident, almost wistful, deeply concerned with the psychology of the act and its implications in a broad labor-relations sense, impatient with detail; Mr. Smith, the businessman type, self-confident, sure of his facts, willing to go into smallest details, but unconcerned with broad trends.

This was not the only contrast at the meeting. At the banquet we heard one of the best addresses of our convention experience—and one of the worst. The former was by Goldthwaite H. Dorr, president of the Cotton-Textile Institute, who courteously but firmly—and courageously—warned his hearers that there was no sound sectional alibi for all of New England's textile troubles. The sour speech was by Gilbert H. Montague, a New York attorney, who sounded the clarion call for a New England bloc which would fight for its rights as earlier generations of New Englanders had done. Mr. Montague also expounded an extraordinary idea about correcting the price structure of the industry by going to fundamentals and stabilizing "single yarn" . . . . A most remarkable outburst in every way.

Add to all this the personal touch—and the reader will understand why the convention was colorful and most worth while. Ernest N. Hood, who has served as president for three years, all through the Battles of NRA, AAA and UTW—not to mention numberless minor skirmishes—was awarded the association medal plus the most evident affection and gratitude of the members at large. His successor, Frank I. Neild—who incidentally has been through the war himself—can tell a story well, and demonstrated it at the banquet.

If the New England industry is no more decadent than its convention was last month, it is by no means through.—*Editor.*

Neild Heads N. A. C. M.

FRANK I. NEILD, president of Neild Mfg. Corp., New Bedford, and a veteran of the old Code Authority, was elected president of the National Association of Cotton Manufacturers at the annual meeting held Oct. 17 in Boston, succeeding Ernest N. Hood, treasurer of Naumkeag Steam Cotton Co., Salem, Mass., who has served for the last three years. Among other things, Mr. Neild is famous for his ability to ease the tension by a salty story when the going became difficult at Code Authority meetings. It is typical of him that, in his speech at the banquet that evening, after discussing the tendency to blame others for our troubles, he added: "But I know that every time I look in the mirror I see a price-cutter."

Other officers elected were: senior vice-president, Dexter Stevens, manager of Esmond (R. I.) Mills; junior vice-president, Henry G. Nichols, president of Otis Co., New York. Directors elected for three years were: Robert Amory, president of Nashua Mfg. Co.; W. Emerson Barrett, treasurer of Maverick Mills; John A. McGregor, president of Utica & Mohawk Cotton Mills; Lawrence Richmond, treasurer of Crompton Co.; and Henry G. Simonds, assistant treasurer of Pacific Mills. Willard F. Staples, treasurer of Ponemah Mills, was elected a director for two years to succeed President-elect Neild.

After reviewing some of the problems brought about in times of stress by the conflicting personalities of members of the industry, Mr. Hood, the retiring president, said:

"In such a situation a policy must be adopted by such a trade association which will harmonize as much as possible these divergent views and command as nearly a united support as attainable.

". . . The NRA and the Cotton Textile Code Authority have ceased to exist, but new and objectionable legislation threatens and such matters are sure to continue to require much of your officers' time and their constant and careful consideration."

Mr. Hood also took occasion to point out the important work done by the Policy and Legislative Committees, and stressed the fact that such work was of value to all mills, whether or not members of the association.

Prefacing his review of the year, Secretary Fisher stated:

"The cotton textile industry, since the NRA decision, has demonstrated its ability for self-government. . . . The strongest argument the industry can make against the measures before Congress is to continue to show by its actions that such measures are superfluous."

Two resolutions were passed at the meeting. The first urged that the Government take action against imports, either under the AAA amendments or the cabinet committee's recommendations, and, if the latter course is pursued, that members of the industry be given an opportunity to collaborate in the negotiations; the second asked that action be taken to promote the exports of cotton cloth and kindred products under Section 32 of the AAA amendments.

Social Security Session

JOHN G. WINANT, formerly Republican Governor of New Hampshire for six years, known to the textile industry through the Winant Board set up during the textile strike of September, 1934, and now chairman of the Federal Social Security Board that will administer the Social Security Act passed at the last session of Congress, was the first speaker at the afternoon meeting.

Characterizing our Social Security Act as "an honest effort to give greater security to the wage-earner in industry," and quoting a co-worker to the effect that "as business revives we are given an opportunity to prepare for future disaster by setting aside a part of our current earnings," Chairman Winant continued, in part:

"The first grouping might be described as welfare, educational, and health enactments set up on a grants-in-aid basis. The grant being made by the Federal Government from general funds to the States on a percentage basis un-

der conditions set forth in the act. This group includes grants for (1) aged needy persons; (2) aid to dependent children; (3) aid to the blind.

"The act calls for allotments by the Federal Government of $49,750,000 for the aged needy, $24,750,000 for dependent children, and $3,000,000 for the blind. The Social Security Board is charged with the administration of these three grant projects.

"The grant to States for aged needy persons provides for Federal matching up to $15 per month per individual, or a total of $30 unless the State chooses to make an additional allotment. The Federal Government will also meet 5% of the States' cost of administration if the plan is approved by the Board.

"In the second grouping we have a Federal system of old-age insurance under a nationalized administration control, supported by an income tax on wages and an employers franchise tax on payrolls equal to the percentage paid by wage earners, beginning at 1% on Jan. 1, 1937, and increasing by 1% at three-year intervals until it reaches a total maximum contribution of 6% on Jan. 1, 1949, 3% by employers and 3% by employees.

"The other division in this second grouping is unemployment compensation. It might be called the Federal unemployment compensation tax. It sets up a State system, or what has been described as a 'cooperative Federal-State System.' The Statute imposes a Federal payroll tax on employers which is paid to the local Collector of Internal Revenue and can be met in quarterly installments. This tax becomes effective as of Jan. 1, next. It is a levy of 1% of the 1936 payroll, 2% of the 1937 payroll, and 3% of payrolls thereafter."

Following Chairman Winant, Arthur D. Smith, Jr., manager, Department of Manufacture, Chamber of Commerce of the U. S., gave a detailed analysis of the act and emphasized the tremendous size and cost of the undertaking. Mr. Smith stated, in part:

"In testifying before a subcommittee of the House Committee on Appropriations, and in trying to impress upon the committee the necessity of an adequate administrative appropriation, Arthur J. Altmeyer (now a member of the Social Security Board) called attention to the fact that the Social Security Board was to administer the most colossal undertaking that this government has ever embarked upon. Continuing, Mr. Altmeyer said, 'It will involve the expenditure of $4,000,000,000 or $5,000,000,000 (per annum) when it gets into full operation.'

"The two principal provisions of the bill applicable to employers are the provisions relating to unemployment benefits and the Federal Retirement Plan for employees of private enterprises.

"Based upon the estimates of the Senate Finance Committee, the unemployment benefit plan will cost employers for the country as a whole: $235,000,000 in 1936; $530,000,000 in 1937; $800,000,000 in 1938; $1,000,000,000 in 1960.

Seated left to right: E. N. Hood, F. I. Neild. Standing: Russell T. Fisher, G. H. Dorr, Henry G. Nichols, Dexter Stevens.

"For the country as a whole, the retirement plan will impose a tax burden of more than twice the sums imposed by the unemployment benefit plan. The figures are estimated as follows: $560,000,000 in 1937; $905,000,000 in 1940; and $2,900,000,000 in 1960."

In reply to various questions, Mr. Smith explained that the total tax on industry would eventually amount to 9%, broken down as follows: employer, 3% of payroll; employee, 3%; government, 3%.

Banquet with Dorr and Neild

PRESIDENT Neild, Goldthwaite H. Dorr, president of the Cotton-Textile Institute, and Gilbert H. Montague were the speakers at the banquet, at which the association's medal for meritorious service was presented to Mr. Hood amid hearty applause.

After a few informal remarks, Mr. Neild said, in part:

"For the last two years we have been fighting regimentation of the industry by government, believing that the fundamentals of the industry are better handled by individuals. In my own opinion, we do not want to be regimented even by the association to which we belong. The textile industry has always been of a highly individualistic type, and must necessarily be so due to the tremendous diversity of its manufacturing problems and merchandising problems and the methods with which they are met.

"We are going to be faced in the coming year with another session of Congress in which legislation will be pressed for passage, affecting this and every other industry. Individuals cannot rise to the occasion in either correcting or preventing unsound legislation. This is a function of the association, and that does not mean that the association does not need the advice, counsel and opinion of as many individual members as will give the matter careful thought and express their convictions.

"I am sure this association wants to do everything possible to prevent unsound legislation rather than attempt to correct it after it is passed. Prevention is always better than cure, and I again urge each member to make himself a committee of one to round up all of those who do not now belong so that we may secure not only their financial assistance but their valuable personal assistance."

Mr. Dorr stated that the line of demarcation between what is a virtue and what a vice is often not clear. Thus the cotton industry possesses an abundance of the fine old trait of individualism, but it is possible that an excess of this virtue may prove to be a vice. Although the death of the NRA apparently gave manufacturers back all their liberties, Mr. Dorr posed the question whether manufacturers really do have the liberty to run their businesses as they see fit. Is it not true, he asked, that when we go on losing money our business is run by others who set the market conditions? Apparently the time has come when further consideration should be given to some modification of individualism along cooperative lines.

There are certain conditions and handicaps that are universal in the industry, Mr. Dorr continued, and others that are peculiar to New England. The mill men of New England should not be deterred by the difficulties from making moves to place the section on a sounder base. It is all too easy to use the difficulties as excuse for doing nothing. As an example of what he had in mind, Mr. Dorr pointed out that the fine-goods branch of the industry is preponderantly in New England, and that it is up to New England to place this branch on a sound basis. The fact that the communities have finally awakened to the seriousness of the situation should be helpful, he stated.

POWER

How much does it cost you?

Here's an average to check against

By Ralph E. Loper
Ralph E. Loper Co.
Fall River, Mass., and Greenville, S. C.

POWER is an important element of cost in any cotton mill. It amounts to about 3% of the total cost of coarse fabrics and is over 7% of the total cost of some fine cotton fabrics.

Power costs the average cotton mill between two and three times as much as the combined state, county and municipal taxes.

Power usually costs a cotton mill about 50% more than its normal charge for depreciation on buildings and machinery.

There are opportunities in many cotton mills for substantial savings through a study of their power situation. There are many factors which may cause excessive power cost. Among these are poor alignment of shafting or machinery, the use of inferior low-priced lubricants, or a low load factor caused by high peak loads for short periods.

The accompanying table of typical power costs per pound for a wide range of fabrics and two yarns has been prepared to help any mill determine approximately its relative position in the cost of power.

The power consumption and cost records for more than one hundred mills were studied in arriving at these typical figures. Any mill should analyze the situation carefully if its power cost is materially higher than the figures given here.

Most public utility power rates give some advantage to large users and to mills with high load factors. In order to make it easy for mills to apply these figures to their own situation we have based our tables upon a price of 1 cent per kw.-hr.

HERE ARE THE FIGURES—

Description of Fabric or Yarn	*Cost per Pound for Power*
Osnaburg (3.50 yard)	**$0.0048**
Denim (2.30 yard)	**.0055**
Drill (2.85 yard)	**.0057**
Narrow Sheeting (16s warp)	**.0092**
30/1 Carded Warp Yarn	**.0098**
Army Duck	**.0128**
Surgical Gauze	**.0163**
Print Cloth	**.0179**
Fine Broadcloth	**.0193**
Filling Sateen (carded)	**.0195**
60/1 Combed Warp Yarn	**.0240**
Voile	**.0340**
Lawn	**.0435**

TEXTILE PERSONALITIES

Too often, all that is generally known about textile men is what they say at conventions or how they look in a studio photograph. On this page we are presenting more human facts (and more human pictures) of a few textile men. We hope to present others from time to time, if we can succeed in breaking down the modesty complex which affects so many of our prospects.—Editor.

THIS is how J. E. Sirrine appears in his own back yard. The picture was snapped as he left his offices by way of the back door on his way to lunch or somewhere. Everyone knows what J. E. Sirrine has done for the textile industry, and many know about the hole-in-one he shot on the Greenville (S. C.) golf course some time ago. Some of the facts about him not so generally known include the following:

Mr. Sirrine's father and grand-father fought in the Confederate army, although both were from Connecticut, having migrated southward years before the war. As a child he was idolized by his old colored mammy, "Aunt Milly." His first "engineering" experience consisted of picking up scrap iron, washing buggies and later working in the shops of the carriage factory of which his father was superintendent—when he wasn't hunting, fishing or swimming. In the lower grades at school he became proficient at "fist and skull" due to his distaste for unfairness in any form. At Furman University, in Greenville, he was a shark at mathematics and graduated with honors. His first real textile job was as local engineer in the construction of F. W. Poe Mfg. Co.

IT happens to be horsemanship in this particular instance. But it might just as well be golf, or swimming, or yachting, or what have you! For the sports interests of Leonard A. Yerkes, who has been president of duPont Rayon Co. ever since it was the duPont Fibersilk Co. are thoroughly cosmopolitan. The energy Mr. Yerkes brings to solution of rayon industry problems finds its source in an active outdoor life.

He has played golf since 1899—and still enjoys it. Yachting is another of his hobbies though of late he has curtailed his activities in that field.

Athletics interest him chiefly for their physical value, not as a field in which to achieve honors. His country home at Brookville, Long Island, is accessible to some of the best golf courses, riding paths and beaches on the Atlantic Coast—a convenience of which he takes full advantage.

YOU'RE apt to run into F. S. ("Fess") Blanchard, of Pacific Mills, almost anywhere—at a Taylor Society meeting, or a distribution conference, or (even more likely) on a paddle tennis court or on Long Island Sound. He gets around. He believes ideas don't pop into a man's head when he is sitting at his desk—but are more apt to stagger him when he is shaving on the morning after a visit to an automobile plant or a button factory — or following an evening spent with a professor of the Harvard Business School.

From Harvard (1910) he went to work as a mill hand in New Bedford where he learned to swear in Portuguese. In three years he reached the job of cotton buyer for Pacific Mills—and has been with that company ever since. His present capacity is difficult to name—as Pacific doesn't specialize in titles. But it covers a variety of fields from sales promotion and advertising to research and development of sales policy and personnel.

"Fess" came sharply into the textile lime-light in February, 1934, when he was appointed Deputy Administrator of NRA, in charge of the Textile Section. It's superfluous to tell about the kind of job he did in Washington.

But don't forget the boat—and paddle tennis. He has a 37-ft. auxiliary yawl which occupies a very high spot in his scheme of things. He also has made most of Westchester County paddle-tennis conscious.

Altogether, he seems to have a pretty good time out of life.

DEXTER STEVENS VICE PRES.
FRANK I. NEILD PRES. ELECT OF THE NAT'L ASSOCIATION OF COTTON MFR'S.
GILBERT H. MONTAGUE SPEAKER
RETIRING PRES. ERNEST M. HOOD OF THE NAT'L ASSOCIATION OF COTTON MFR'S.
GOLDTHWAITE H. DORR, PRES. COTTON-TEXTILE INSTITUTE, N.Y.
RUSSELL T. FISHER SEC'Y
DAVID MACINTOSH THE BOSTON POST

New England celebrities caught by Cartoonist MacIntosh of *Boston Post* at N.A.C.M. convention.

Anthrax Is

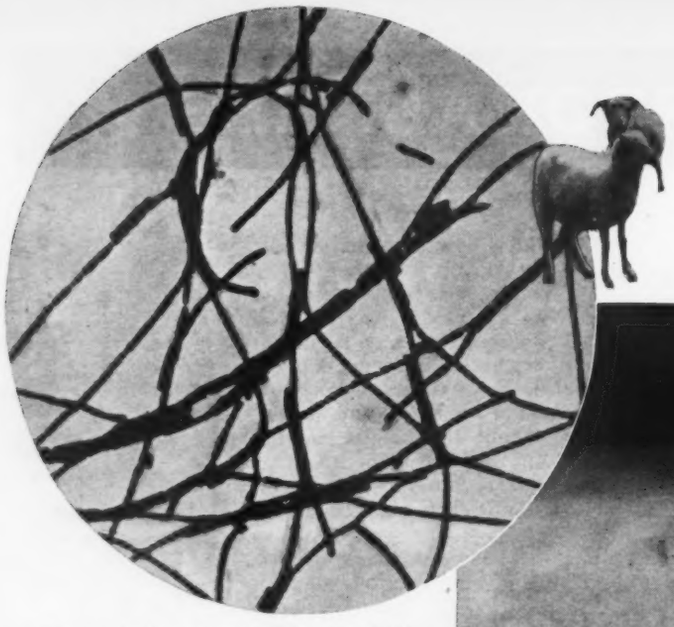


Fig. 2. Anthrax bacilli magnified 1,000 diameters. The organism is a slender rod shape varying in length from 2/25,000 in. to 2/2,500 in. and usually about 1/25,000 in. wide. The bacteria, in growing, are joined end to end to make long chains. Dried anthrax spores will remain alive for many years. Frozen in liquid air, they still live after 3 hr. Anthrax was the first malady in which it was definitely established that a micro-organism or "germ" was responsible for the disease.

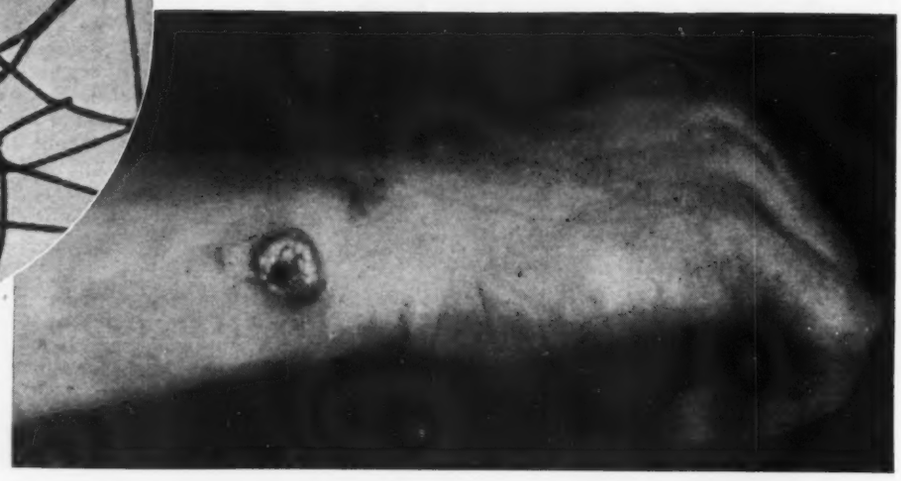


Fig. 1. Anthrax carbuncle on arm of wool worker. Note black central area surrounded by a zone of silvery, glistening beads of skin containing watery serum. Beyond this central area is a reddened swollen expanse of flesh.

◆ *Each year in various parts of the world thousands of sheep and cattle and many human beings perish from the ravages of anthrax. In the United States annually about 120 people are afflicted with the malady—probably a small number when compared with world totals but far too great when one considers that the cases are largely confined to workers in the wool and tanning industries—and the carpet industry in particular. In the belief that an occupational disease so narrowly restricted can to a considerable extent be prevented, Dr. Macdonald has studied anthrax in the pathological laboratory of Cornwall Hospital, Cornwall, N. Y.; and in this article he reports his findings and recommendations to date.*

WOOL workers who handle imported wool or hides are constantly exposed to anthrax, an infectious disease, which may attack the skin, lungs, or intestines. One form is known as "wool sorter's disease." The most common form of the malady appears as a lesion in the skin not unlike the common "boil," except that it is practically insensitive and has a tough black center, often surrounded by a circular row of silvery bead-like points of skin elevated by underlying fluid. This form is the result of anthrax bacilli entering the skin through a cut, abrasion, or infection. Forms commencing in the lungs or intestines, from breathing or swallowing the germ, are practically unknown in the United States.

Workers in wool-carpet mills probably are exposed to anthrax more continually than other wool workers, since most of the wool which goes into American carpets is imported from Asiatic and tropical countries where the disease is prevalent. This, however, does not mean that all other wools are free of the bacilli.

The interest of the author was aroused in the problem of anthrax infection when a number of cases developed among wool sorters and handlers employed in a large wool-carpet manufacturing plant which for several years had been free of infection. There, the problem resolved itself into (1) protecting the workers as completely as possible and (2) insuring a final product adequately and effectively treated.

Exhaustive investigations were pursued with two questions in mind:

1. To what extent is the raw wool as received contaminated with anthrax?

2. What chance does the anthrax organism have of surviving the various processes of carpet manufacture, and of being present in the finished product?

The answer to the first question was found easily when random samples of raw wools, examined bacteriologically, showed the presence of anthrax organisms in greater or smaller numbers in Persian, Syrian, and China wools. Not all lots of wool, by any means, contained the bacilli, while others were heavily infected.

To answer the second question, samples from a lot of wool known to be heavily infected with anthrax spores were recovered after the scouring and drying processes. A laboratory test showed the wool to contain a growth of anthrax bacilli as luxuriant as that obtained from the raw wool, or perhaps more so. Experimental duplication of this process, by placing live anthrax organisms in a soap and soda solution under identical conditions of temperature and time, proved absolutely ineffective in destroying the bacilli or in preventing their subsequent growth. It therefore is apparent that these early steps in processing remove none of the danger from infected wool. In fact, this recently was borne out when an employee in the scouring room developed anthrax.

Obviously, the mechanical processes following scouring, such as spinning, would have little effect on the anthrax organism. On the other hand, the worker has comparatively little contact with the wool. Taking everything into consideration, there appears to be small chance of infection in these departments.

The next logical move, in view of the fact that roughly 85% of wools used in carpets are dyed, was to determine the effect of the dyeing process on the anthrax spores.

Preventable...

By Ian G. Macdonald, M.D.

Recent investigations show effectiveness of wool sterilization and other precautions

In general, wool stock or yarn is dyed by boiling it in covered vats with 2 to 5% sulphuric acid, glauber salt, and acid dyes. Any bacteria present, therefore, are subjected to a moist heat of 212° F. or more for approximately one hour.

Samples of wools dyed as described when tested failed to show the presence of anthrax bacteria; in fact, the wool was found to be sterile if cultured the moment it left the dye vat. Laboratory duplications of the dyeing process proved conclusively that in the test tube live cultures of bacilli were killed totally after 20 min. exposure to dye-vat conditions. *Prolonged exposure to high temperatures in a moist state* was found to be the chief factor in the sterilization. In fact, sulphuric acid and aniline dyes, in themselves, were discovered to be ineffective. Therefore, it is concluded that the dyeing process is completely effective in sterilizing that portion of the wool which passes through the vats, and assures safety in all except *undyed* wools.

The foregoing experiments and investigations resulted in development of a special method of sterilization for undyed wools. The operation is as follows:

During the steaming, tentering, or sizing following weaving, a 10% solution of formaldehyde is applied to the back of the fabric by passing it over a cloth-covered roller running in a trough of the solution. As the cloth passes through the drying chamber or over the drying cylinder, the formaldehyde solution is vaporized and the formaldehyde vapor permeates the fabric. This treatment was found to be almost totally effective in destroying anthrax bacteria.

The efficacy of the process was determined by placing live bacilli on marked squares in a carpet before passing it through the formaldehyde solution and over the hot cylinder. Practically all bacteria were destroyed. In similar experimental runs, *without the formaldehyde application,* the anthrax bacilli were invariably recovered, and continued to grow luxuriantly when replaced in nutrient media. Such experimental conditions, where a mass of live flourishing organisms is placed on the fabric, are far more rigid than are experienced under actual operating conditions where previous processes have reduced infection to a minimum. It is felt, therefore, that this process constitutes a reasonable and economical method of producing practical sterilization of such fabrics as are technically adaptable to the operation. Incidentally, it should be noted that while formaldehyde has no deleterious effect on the physical properties of most textile fibers, it does have a tendency to alter slightly the shades of dyes, usually lightening them a bit. This effect, however, is not sufficiently marked to make the process undesirable.

The formaldehyde sterilization process, as outlined in the foregoing, is based on a method of controlling anthrax spread as practiced in England, where all goat hairs and known dangerous wools are disinfected compulsorily at the port of entry under Government supervision. The following process has been found effective in dealing with the most heavily infected wools:

1. Scour in a soap and soda solution at 110° F. for 20 min.
2. Agitate in a 2½% solution of formaldehyde at 102° F. for 20 min.; follow with a squeezing.
3. Dry at 160°.
4. Allow the lots to stand for several days in the loose state in order that the progressive action of the formaldehyde can develop as it vaporizes.

Still another method of sterilizing wool, when it is *loosely* packed, is to apply live steam under a few pounds pressure for fifteen minutes. However, the difficulty and cost of such treatment of large lots of wool in the average mill are obvious.

Although the formaldehyde treatment renders the product practically sterile, and although the described investigations prove that the majority of wool workers are protected automatically, a considerable percentage of workers are left open to infection during the early operations. To date, short of expensive methods of wholesale sterilization of raw wool, nothing but precautionary measures against infection can be instituted. However, if certain precautions are taken seriously (with enforced cooperation of employees), there should be only rare cases of anthrax—and these should be detected early and treated effectively.

Precautionary Measures

Precautionary measures are suggested as follows:

1. A daily inspection by competent individuals should be made of those workers who come in close contact with wool in its original state. Any cut, abrasion, open sore, or infection on hands, arms, face, neck, and shoulders should be covered securely with a dressing, or the employee should be laid off until the place heals.
2. At the end of each day all exposed employees should take a shower bath and put on a complete change of clothes. Failing in this, the hands and arms should be washed in a 5% solution of Lysol in water.
3. A competent employee instructed in first aid should be provided with colored illustrations of anthrax sores at different stages, and every worker should be instructed to report and show him any sore or pimple, no matter how insignificant.
4. A nearby hospital or physician supplied with anti-anthrax serum should be available at all times. Also, there should be facilities, preferably in the hospital, for isolation patients.

Further progress in the control of anthrax among wool workers probably will come when an effective vaccine is developed which will confer an immunity to the disease. It seems remote to suppose that the disease will ever be completely eradicated when it is so prevalent over a large area of the globe. It is essential, then, that such measures as we have be employed against its ravages among workers, and that the final products containing raw wool be adequately treated. Future development along the lines indicated may soon render these hopes more certain.

Japan's Industry Growing

Gains in machinery units and their efficiency

one basis for sudden rise in wool goods exports

◆ *The fact that Japan's textile industry is a growing industry, is stressed in the two short summaries published below. The machinery position of the wool industry, whose products have lately been offered on this market, is of interest as it appears to be about one quarter the size of the American industry. Japanese wool goods exports began in volume as recently as 1932 but have grown rapidly. Growth is also the keynote of Japan's cotton spinning, and figures below show the relative position of modernized mills. The author of the two pieces is resident in Japan.*

Japan's Wool Industry

ALTHOUGH still in preliminary stage, the future of the Japanese wool textile development is very bright and large capital is available. Some Japanese cotton manufacturers have lately added wool manufacture to their operations. The present productive strength is shown by latest statistics:

	Number
For worsted industry	
Cards (English)	58
(French)	512
Combs (English)	89
(French)	1,119
Drawing machines	125
Mules	881
(Spindles)	559,770
Ring frames	495
(Spindles)	195,786
Cap frames	260
(Spindles)	50 776
Twisters	534
(Spindles)	182,478
For woolen industry	
Sets of Cards (English)	47
Mules	206
(Spindles)	86,392
For weaving section	
Looms on muslin	8,124
Looms on ordinary cloth	1,960
Looms on other lines	162
Total	10,246

The increase of equipment is shown by the following yearly figures:

	1930	1933	(As of June) 1935
Worsted spindles	446,202	581,564	755,556
Woolen spindles	73,664	87,893	86,392
Looms	9,274	10,043	10,246

The small increase in looms as compared with that in spindles is due to the fact that much of the yarn is consumed in local or domestic looms which are not shown in the statistics. Not included in these statistics, there are, beside the established woolen mills, five or six large cotton spinning companies which have worsted and woolen machinery in their plants.

Progress of wool yarn and wool cloth production over a 14-year period is shown below:

Yarns—in pounds

1921	21,462,000	1931	77,586,000
1925	42,527,000	1933	101,359,000
1927	49,637,000	1934	103,245,000
1928	65,101,000	1935	*106,086,000

Fabrics—in yards

	Ordinary cloth	Serge	Muslin
1928	6,046,000	2,353,000	165,858,000
1930	8,275,000	3,463,000	154,455,000
1932	5,856,000	2,374,000	158,000,000
1933	6,900,000	3,254,000	141,336,000
1934	7,933,000	3,912,000	120,945,000
1935	*7,536,000	*4,906,000	*120,218,000

*(At rate of first half year)

Wool muslin is one of the staples of native dress and the decrease in its production in the last three years was due partly to the heavy fall of silk prices which attracted much of the demand for muslin to silk fabrics.

Import of raw wool is increasing consistently as shown in the following figures which give 12-month figures ending with August of each year:

1930-1931	523,221 bales
1931-1932	651,250 bales
1932-1933	668,024 bales
1933-1934	609,916 bales
1934-1935	700,000 bales

Japan has now reached the point of exporting wool products. Until three years ago, she used to export only Yen 2,000,000 to 3,000,000 of woolen yarns and fabrics. In 1932, her export rose suddenly to Yen 18,000,000, the first year when exports exceeded imports of the same kind. The increasing trend still continues; in 1934, the export of wool manufactures reached Yen 40,000,000, and will surely reach larger figures in 1935.

(See October, 1935, issue of TEXTILE WORLD, page 114, for news story of current Japanese offerings of worsteds on the American market.—*Editor.*)

Cotton Mill Modernization

JAPAN now possesses 10,000,000 spindles in her still increasing cotton-textile industry. By 1937 her spindleage will have reached 12,000,000 according to plan. It has been something of a mystery to many that Japan's cotton industry has continued a 26% curtailment of production for several years, while at the same time adding new spindles. The mystery is explained partly by Japan's purpose to abolish night work in the near future and partly because of her plan to replace the older mills with modern ones.

From a reliable source, the following classification of the existing 10,000,000 Japanese spindles is published:

Type of plant	Per cent of Total	Number of Spindles
Old mills	40%	4,000,000
Renewed mills	52%	5,200,000
Modern mills	8%	800,000

Between the old and the modern mills, there is a great gap in cost of production and efficiency. For example, the old mills spinning 20s require 261 operatives per 10,000 spindles, but the new mills require only 154 operatives.

In the modern Japanese mills, the dominant equipment is the high-draft system, with the Casablanca system prevailing. Some mills have added their own improvements to this system to effect greater efficiency, so that the ordinary type of high-draft system is getting out-of-date.

The following table presents details of current costs in old, renewed and modern mills, on basis of 20s:

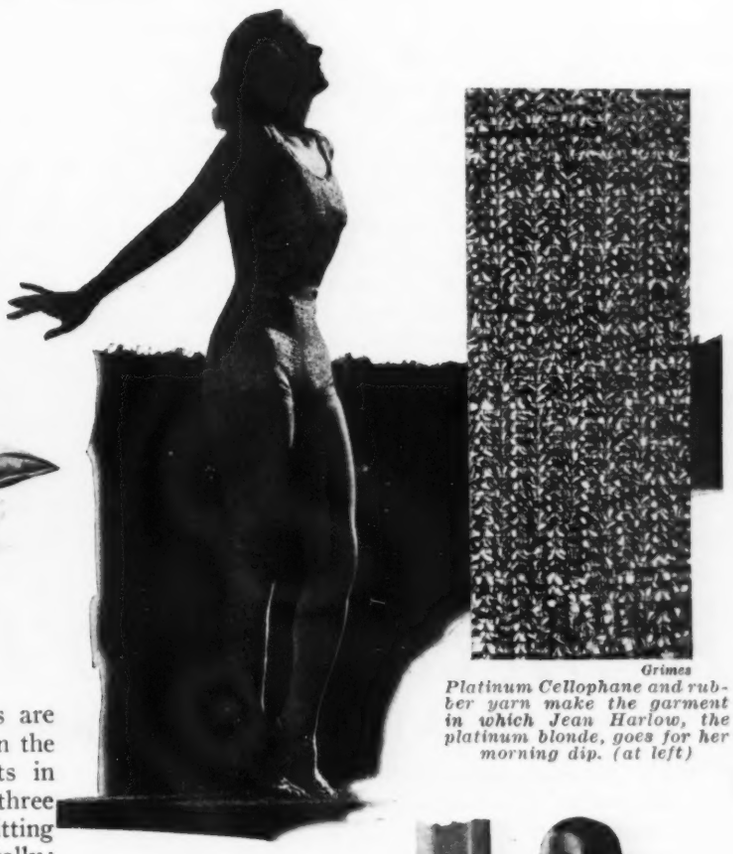
	Old mills	Renewed mills	Modern mills
Power cost	Yen 6.50	5.00	4.00
Packing	1.30	1.30	1.30
General repair	.50	.40	.30
Machinery repair	1.50	1.00	.70
Wear and tear	1.00	.80	.50
Miscellaneous expense	.10	.10	.10
Wages	7.80	6.40	5.30
*Housing	1.30	1.00	.80
Total	20.00	16.00	13.00
Saving percentage	100	80	65

*This being a particular expense to Japan's cotton industry which keeps female operatives in dormitory for lodging and board.

Bathing Charms

Seen at their best in the 1936 swimsuits

Bathing creations, left in silver, right in metallic blue, which will be a new note on the beaches next summer.



Grimes

Platinum Cellophane and rubber yarn make the garment in which Jean Harlow, the platinum blonde, goes for her morning dip. (at left)

VARIOUS interesting trends in bathing suits are now being studied for their probable effect on the 1936 market. With regard to developments in style, method of manufacture and fiber content, three of especial significance: First, the woven form-fitting satin suit in which elastic yarn is used horizontally; second, the so-called Cellophane suit made with slit cellulose film with an elastic yarn foundation; and third, the suit of waterproofed cotton lawn, processed by Revolite with Bakelite resinoid.

The most representative in the first division is the "Sea Satin" line introduced by BVD. This suit retails at $12 to $13, as against $5.95 to $8.95 for the same firm's knitted suits. The use of woven fabric in this line suggested to some mill men that the industry might be tending to a serious change in methods of manufacture. However, knitters need not worry—not immediately, at least. The "Sea Satin" suit has a lining of rib-stitch, knitted lisle, so the knitting machine is not wholly discarded!

The Cellophane suit promises to be a highlight number in 1936, thanks to a good running start last season. This represents one of the most interesting novelty uses so far developed for the slit cellulose film. Sponsored by Hollywood and exploited in popular screen plays, the Cellophane suit wins increasing favor. As evident in the illustration, it gives a dramatic coat-of-mail effect to the wearer.

The third type is an achievement of chemistry. The fabric, an 88x80 cotton lawn, was processed by the Revolite Co., with Bakelite resinoid, and now is being offered by the Mallard Co., of New York, styling and distributing unit, for raincoats and other apparel and also industrial uses.

"Sea Satin," given elasticity by rubber yarn (à la tree-bark fabrics of last spring), provides a comely bathing suit as shown at right.

A Vigorous Program . . .

Rayon weavers approve 6-point plan for 1936

A PROGRAM of wide scope and significance is projected by the National Rayon Weavers Association for the coming year. This program, which was approved at the Association's annual meeting, Oct. 10, in New York, has six chief phases as follows: (1) Membership expansion, to include more weaving firms having similar problems; (2) further effort toward market development; (3) expansion of statistical service; (4) improvement in public relations; (5) concerted action with other textile divisions to oppose proposed harmful legislation; and (6) closer contacts with research departments of yarn producers to develop standards for rayon fabrics.

Of these, perhaps the most immediately important is the matter of pending legislation. In his annual address, C. Whitney Dall, president and secretary-treasurer of the association, emphasized the need for combined action by all textile groups to resist enactment of laws which he declared would "create an intolerable manufacturing situation." Mr. Dall said the chief legislative problems were: (a) the probable reintroduction of the Guffey and Ellenbogen bills; and (b) the Social Security and National Labor Relations Laws.

The meeting was the first held by the association since Percy S. Howe resigned as chairman of the board. Mr. Howe's resignation was occasioned by the fact that he had been elected vice-president of Industrial Rayon Corp., which took him out of the rayon weaving industry. In expressing the association's thanks to Mr. Howe for his extended service, Mr. Dall said: "One of the assets of the association is that we can count on Mr. Howe's advice and suggestion in the future as in the past."

The association elected Charles Walcott, president of Newmarket Mfg. Co., Lowell, Mass., to succeed Mr. Howe as board chairman. Mr. Walcott has been engaged in textile manufacture most of his life, and has long been a leader in the affairs of the association. Other officers elected were R. E. Henry, Dunean Mills, vice-president; Lyman Frieze, Duplan Silk Corp., second vice-president. Mr. Dall was reelected to his triple post. Miss Marie F. B. Wey was reappointed assistant to the president. Three new directors replacing those recently resigned were elected as follows: Edward Lord, of Aberfoyle Mfg. Co.; Paul Whitin, of Paul Whitin Mfg. Co. and T. M. Bancroft, of Chadwick Hoskins Co. and Gossett Mills.

With respect to expanding statistical services, the members voted that a study be made to determine what data were needed most and that recommendations then be submitted to the executive committee for action.

A Move to Help Exports . . .

AAA in position to spend money to help cotton goods

COTTON goods men called on the Secretary of Agriculture Oct. 31 to urge action under Section 32 of the AAA amendments which permits money to be spent to aid exportation of agricultural products. The only specific result of this conference up to time of going to press was the appointment by the Secretary of certain of his department heads, including Paul Porter and Lawrence Meyers, as a special committee to carry on further technical conferences with representatives of the trade.

The active interest of Sam C. Lamport, of Lamport Mfg. Supply Co., New York, in export is of long standing and is largely responsible for the progress so far made. He explained his cotton bounty plan to our southern editor last spring (see TEXTILE WORLD for May, page 118), and the present tolerance proposition is similar to that excepting only for the source of necessary finances. Mr. Lamport is chairman of the cotton tolerance committee of the Textile Export Association. He did much to introduce the three words into the already-mentioned Section 32 which make it apply to cotton goods. That section provides that 30% of custom's receipts be allocated to promote the sale abroad of American agricultural commodities *"and their products."*

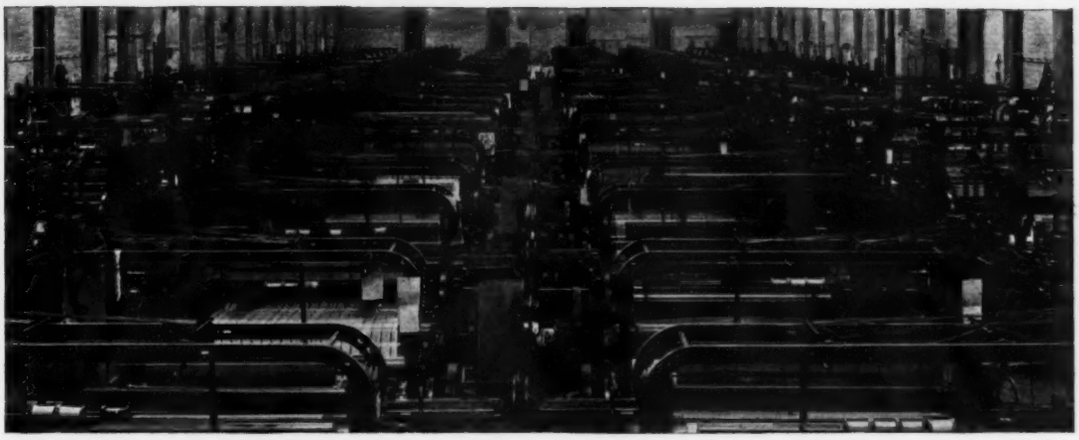
In further detail the plan involves the designation by the Secretary of Agriculture (as provided in the bill) of $15,000,000 of the customs fund (about 10 to 15% of the total) with which to pay back to the maker 7c. per lb. on the net cotton content of all exported products of cotton. This sum would suffice, it is said, to bring the yardage of exported American cottons up to 600,000,000.

Industry interest and support of the tolerance plan was focused at a dinner given at Hotel Pennsylvania, New York, Oct. 16, by the Cotton Tolerance Committee of Textile Export Association in conjunction with the Cotton-Textile Institute, A.C.M.A., N.A.C.M., Textile Fabrics Association, National Association of Finishers of Textile Fabrics, International Association of Garment Manufacturers, and others. Some 300 diners cheered the speakers who dramatized the bright possibilities.

Goldthwaite H. Dorr, then president of Cotton-Textile Institute, argued that the wages and hours program adopted in the unemployment emergency by the cotton-textile industry under NRA, added costs to the industry which were not unlike in effect a tax which might have been levied for the same purpose. If there had been such a tax, certainly a drawback would have been allowed on exports just as a drawback of the processing tax is allowed. The tolerance plan, Mr. Dorr concluded, constitutes no discrimination against a foreign country, nor need it be regarded as a subsidy any more than the processing tax drawback is considered a subsidy. This attempts to meet the State Department's objection that the plan is a violation of some existing trade agreements and that it will start a trade war directed against us.

Mr. Lamport stressed the fact that the plan will bring further reemployment and will stabilize the cotton industry, in addition to increasing the prestige of American cotton in world markets and thwarting the trend to inferior cottons grown in other countries.

Frank S. Bruyn, president of Textile Export Association, said "We expect from the Secretary of Agriculture what we believe is rightfully due under Section 32."



When the Warp Is Out

The fixer should check the condition of the loom

By John Picone

TIME and again in my travels through various mills I have seen looms stopped for repairs. Frequently a new warp has just been put in the loom and only a few yards of cloth have been woven. In most instances the looms would not have been stopped, with the resultant damage to the cloth and loss of production, if more serious consideration had been given to the condition of the equipment. That is, in the majority of cases such trouble is due to neglect, and can be avoided.

As a general rule, mill men are in too much of a hurry to put a new warp in a loom. They do not seem to realize that the time to check the loom and to make any necessary adjustments or repairs is when the warp is out. Yet this is the only time to do the job thoroughly and thus to prevent unnecessary breakdowns when the loom should be running.

As soon as a warp runs out, the shuttle should be removed from the loom and the pins, tensions, spindles, and points looked over and repaired. Next the center stop motion should be checked for lost motion, the feeler wires or fork polished, and the stop motion adjusted if necessary. Now the protection should be set properly and tested for knock-off; this should not be neglected, as it is impossible to repair the protector rod when the warp is in the loom. Following this, the crank arms should be tested for play and examined for splits. Then any bad jacks and hooks on the lift or dobby should be replaced. The reed frames should be cleaned and inspected for broken caps.

The pickers are most important and require careful attention. I often have seen smashes in new warps which were caused by bad pickers. If the pickers are worn, cracked, or split, replace them with new ones. Check the picking-shaft bearings for worn or defective collars; examine the picking roll and arms for loose keys and worn picking balls; if the picker sticks are split or are binding, replace them. Make certain that the reed block is lined up properly. See whether the head motions, harness wires, and jack eyes are so badly worn at to need replacement. Test the take-up to make sure that it works freely, without binding. Examine the felt covering on the cloth roll, the whip-roll pins, and the whip-roll stands.

If the parts mentioned above are gone over carefully when the warp is out, a great deal of trouble will be avoided. It is not wise, however, to depend entirely on the loomfixer. He is only human and may slip up occasionally. Have the loomfixer's work checked by the overseer or some other responsible person.

The writer has installed this system of loom-repair work in a number of mills. To make certain that it is being followed, he has devised the simple form shown in the accompanying illustration. This is printed or stamped on the back of the warp ticket and, when filled out, shows just what attention the loom has received.

Three Days of D-13...

Fall meeting proposes simplification committee and discusses home economics

ALTHOUGH the fall meeting of Committee D-13, the textile committee of the American Society for Testing Materials, held at the Hotel New Yorker, New York, extended over the greater part of three days (Oct. 16, 17 and 18), even this time was not sufficient to prevent a considerable overlapping of the seventeen subcommittee meetings.

Of particular moment in the way of business at the general meeting was the decision to establish a subcommittee on simplified practice. A feature of the extracurricula activities was a Home Economics Symposium, at which various home economists discussed textile tests and standards from the viewpoint of the consumer; and at several of the subcommittee meetings—notably those on raw cotton, rayon yarn, and machines—technical papers were presented. As principal speaker at the banquet, Dr. R. W. Webb, senior cotton technologist with the U. S. Department of Agriculture, described his recent visits to the cotton research institutions of Europe.

The new publication "A.S.T.M. Standards on Textile Materials," a complete summary of the work of D-13 to date and termed by one disinterested party who attended the meeting "the most important single book in the textile industry," was distributed to members and announced as available to the industry at large.

Simplification Subcommittee

The proposal that a simplification subcommittee be established was made by Martin Castricum, of the U. S. Rubber Products Co., who said he felt that D-13's efforts toward eliminating sources of confusion, as exemplified recently by the establishment of the terms "S" and "Z" for designating the directions of twist in yarns and the Typp system for numbering woolen and worsted yarns, should be carried into other phases of textiles. He cited in particular the need for a standard method of designating the weight of fabrics and recommended that ounces per square yard be adopted as the basis for such designation, with perhaps some new term used as an abbreviation for the unit.

Ephraim Freedman, of R. H. Macy & Co., in expressing approval of Mr. Castricum's proposal, stated that the work of such a subcommittee should include the establishment of standard definitions for fabric names, since now there is nothing to prevent any name being applied to any fabric. In consecutive seasons, he stated, new names become so broadly and loosely applied that eventually they are meaningless. A. M. Tenney, of A. M. Tenney Associates, gave his support to the proposal, saying that the various branches of the textile industry now overlap to such an extent that there is much need for a universal yarn-numbering system, and other industry-wide standards. Professor H. J. Ball, of Lowell Textile Institute and chairman of Committee D-13, declared that the possibilities in such an undertaking may perhaps be gaged by the rapidity with which the terms "S" and "Z" have taken hold—it recently having come to his attention, he stated, that the Italians, as well as the Germans, are now promoting the use of the D-13 twist designations. In discussing this subject, Professor Ball called the attention of the members to the fact that TEXTILE WORLD is offering to supply gratis, on the request of any organization, 100 gummed labels explaining either the "S" and "Z" terms or the Typp system.

The vote on Mr. Castricum's motion was unanimously in the affirmative, and it is expected that the new subcommittee will shortly be established.

Other Business

Secretary W. H. Whitcomb announced that the five proposed standards recently submitted to letter ballot had received approval but that two of them had failed to pass Committee E 10, which supervises all standardization undertaken by the various A.S.T.M. committees. Those which passed are the revisions of the tentative methods of testing and tolerances for woolen and worsted yarns, the methods of testing pile floor covering, and the methods of testing the fineness of wool. Those which must be revised are the methods of testing fastness of dyed or printed cotton to laundering or domestic washing and the methods of testing slippage in silk and rayon woven broad goods.

Some conflict between D-13 standards and those being promoted for dress fabrics by the Division of Trade Standards, National Bureau of Standards, was reported; and Ephraim Freedman was elected to represent D-13 in an attempt to iron out the differences. On the motion of D. E. Douty, U. S. Testing Co., it was voted that the advisory committee consider the establishment of a subcommittee on domestic (home) fabrics.

Mr. Freedman acted as chairman of the local committee on arrangements for the meeting and as toastmaster.

Titles and authors of technical papers presented at the meeting are as follows: "The Attainment of the Perfect Cloth Through the Proper Correlation of the Results of Tests on Gray Yarn and Cloth and the Final Finished Fabric," George Fuller, Cox & Fuller; "Calibration of the Incline-Plane Testing Machine," R. S. Cleveland, National Bureau of Standards; "Formation and Microscopic Structure of Cellulose Membranes with Particular Reference to Cotton Fibers," Wanda K. Farr, U. S. Dept. of Agriculture; "The New and Expanded Federal-State Coordinated Cotton Research Program," H. W. Barre, U. S. Dept. of Agriculture; "How Can Results of Fading Tests Be Expressed," Dorothy Nickerson, U. S. Dept. of Agriculture; "Résumé of a Seven-Year Series of Studies on Silk and Synthetic Fabrics," Pauline Berry Mack, Pennsylvania State College; "More Work for D-13—Standard Test Methods Needed for Consumer Fabrics," Ruth O'Brien, U. S. Dept. of Agriculture; "Results of a Questionnaire on Textile Test Methods Needed by Teachers of Home Economics, H. J. Ball,

Lowell Textile Institute; and "Serviceability Tests on Fall and Winter Dress Fabrics," Dorothy Saville and Ethelwyn Dodson, United States Testing Co., Inc.

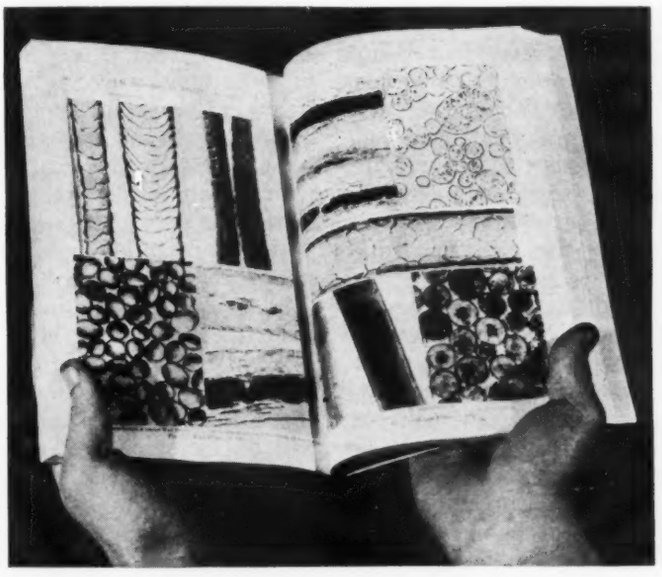
In discussing the attainment of the perfect cloth, Mr. Fuller stated that it appears as if textile investigations generally are made from the wrong direction. Actually, the only important consideration should be the final finished fabric.

Referring to the tensile strength and wearing qualities of synthetic-yarn cloths, Mr. Fuller stated: "Ordinary viscose synthetic-yarn fabric under normal conditions of use, considered on a weight-for-weight basis, has greater average tensile strength by about 40% than ordinary cotton cloth. This is absolutely contrary to the ideas of most users and many others. Even when soaked for a period of 30 min., in which time tensile strength is lost, while on cotton cloth it is increased somewhat, the amount of usable strength is much more than sufficient to prevent any trouble. Based upon definite relations I have established, for viscose cloths this means from 22 to 25 lb. per in. on a strip-test basis when soaked, whereas any cloth in a normal atmosphere is considered satisfactory when it has 15 lb. tensile strength on a strip basis. Another and most important matter in connection with wear is that this tensile strength is regular in character.

"A matter which has been overlooked generally is that many of the so-called defects in synthetic yarn cloths are not due to real faults, but are based upon the general perfection of the fabric as made. The fact is that well made synthetic-yarn materials are so regular today in all characteristics that the smallest variation from normal is accentuated by contrast, where in a fabric composed of any other type of yarn the small irregularity would be invisible. The extreme regularity in synthetic yarn fabrics is likely to become one of their most important features, as it will permit definite standardization."

Mr. Cleveland described two methods developed at the National Bureau of Standards for calibrating the incline-plane serigraph. He stated that the machine can be calibrated satisfactorily either with pulley and weights or with calibrated springs. The two methods check one another at all points within about 10 grams, and usually much more closely.

Mrs. Farr's talk consisted of a discussion of lantern slides which illustrated recent research in cellulose chemistry and physics.



The new publication, "A.S.T.M. Standards on Textile Materials, 1935," containing not only a complete summary of the work of Committee D-13 to date, but also abstracts of recent technical papers and some of the finest photomicrographs of fibers ever published.

Home Economics Symposium

In her paper Miss Nickerson outlined briefly the recent progress in colorimetry and suggested a new method of expressing the results of fading tests. This method involves: (1) the color measurement of faded and unfaded portions of any textile sample by such means as will allow the results to be expressed as differences in hue, brilliance, and saturation; (2) the equating of the units used for the scales of hue, brilliance, and saturation; and (3) the conversion of the differences in the several factors, on the basis of equated values, to one number to be known as an "Index of Fading."

The paper written by Dr. Mack, and read by Mrs. Mae Yoder Moore, reviewed the results of a seven-year series of fourteen research studies on silk and synthetic fabrics from the viewpoint of the consumer. General conclusions drawn from the studies are as follows: (1) Consumers receive correct sales information about the durability and color fastness of silk and synthetic fabrics in only a small percentage of the cases. (2) In order to give accurate information on the subject, fabrics which are to serve their best purpose should be manufactured according to performance specifications, they should be checked by the retailer to find whether or not they are meeting these specifications, and they should be correctly labeled in some manner which will indicate their performance for the benefit of the ultimate consumer. (3) There is a need for a number of standardized test methods before fabrics can be produced on a performance-specification basis. Chief among these are an accelerated ageing test and a test for color fastness to perspiration. (4) Methods of denoting to consumers the performance of fabrics should be worked out.

After pointing out the properties of textiles in which consumers are most interested. Miss O'Brien called attention to the present chaos in fabric nomenclature and the present lack of proper grading and labeling of most textiles. As a step toward correcting these conditions, she suggested the following job for Committee D-13: (1) determine what properties of the various types of fabrics are of first importance in consumer use; (2) develop machines and methods of testing these properties; (3) establish minimum quality specifications for any classes or grades whch can be set up within these groups to advantage; (4) establish a practical and scientifically sound nomenclature for fabrics.

Reporting the results of a questionnaire to determine the types of textile test methods now in use by teachers of home economics and those needed, Professor Ball stated that 22 usable replies were received from letters sent to 95 teachers in 85 colleges. Tests now in use and the number of times mentioned are as follows: yarns per inch, 6; tensile strength of fabric, 5; burning, 5; alkali, 5; acid, 5; shrinkage, 5; weighting of silk, 5; color fastness, 4; microscopic, 4; weight per square yard, 3; thickness, 2; tear, 2; sizing, 2; appearance, 2; yarn number, 2; twist in yarn, 2; fiber diameter and length, 2; bursting strength, 1; abrasion, 1; moisture content, 1; fiber content, 1; elongation of fabric, 1; elongation of yarn, 1;

tensile strength of yarn, 1; and feel or handle, 1. Tests cited as needed and times mentioned are as follows: abrasion or wear, 7; color fastness, 5; shrinkage, 4; weighting of silk, 2; sizing, 2; tear, 1; thickness of napped and pile fabrics, 1; elasticity, 1; slippage, 1; absorption, 1; perspiration, 1; heat conductivity, 1; covering power of fabric, 1; and twist in yarn, 1.

As a result of serviceability tests made on 82 silk and rayon fall and winter dress fabrics, Miss Saville and Miss Dodson reached the conclusion that, disregarding some of their weaknesses, most of these fabrics will make satisfactory dresses for fall and winter. More specifically, they reported that with one exception (a chiffon) all fabrics had a tensile strength of over 30 lb. in the warp and all had a strength of over 20 lb. in the filling; nine fabrics showed yarn slippage at less than 10 lb. and should not be used in garments which require as much fitting as dresses; 60 of the fabrics shrank less than 5% when dry-cleaned, and several of those which shrank more than 5% could be pressed back to their original measurements.

Only five of the fabrics tested shrank less than 5% when wet-cleaned; 60 of the fabrics were fast to dry crocking, five showed slight crocking, and sixteen showed slight crocking; 42 samples were fast to wet crocking and 38 showed some crocking; 41 fabrics were fast to light, 33 showed fair fastness to light, and 19 showed poor fastness to light; there was no apparent change in shade of any of the fabrics cleaned dry, although seventeen crocked onto white during dry-cleaning; and only two fabrics changed color on cleaning wet, although 37 crocked onto white during wet-cleaning.

For Better Cotton

By H. W. Barre

Federal and State coordinated research program gets under way

◆ *This is a brief abstract of a paper presented at the fall meeting of Committee D-13 by the head of the Division of Cotton and Other Fiber Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture.*

THESE researches concerning all aspects of cotton production, utilization, and marketing are conducted throughout the cotton belt in cooperation with the State Agricultural Colleges and Experiment Stations and in Washington. All together they constitute a very comprehensive program of research looking to the improvement of the quality of our cotton and to the strengthening of the position of the crop in world demand and trade.

As a starting point for some of these researches, in cooperation with the Textile Foundation, we are conducting a regional variety study which consists of planting sixteen different types or varieties of cotton at fourteen different places in the main cotton belt. We are also planting eight varieties at four different places in the irrigated sections of the Southwest. Two of the varieties used in these tests are planted at all of these places from California to North Carolina. This test will be planted three years in succession on the same land and from the same lots of seed. At each location the cotton is planted on as uniform land as can be secured, and each variety is planted at eight different places in the field. We have here, then, a carefully planned experiment to determine the influence of climate, soil, seasonal, and weather factors, on cotton plant growth and production and on the different fiber properties. Accurate weather records are kept so that we can correlate fiber properties such as lengths, fineness, etc., with rainfall, dry weather, or other conditions that obtain during the growing season at each of the fourteen places and with each of the sixteen varieties. There is at least one of these plantings in each important cotton-growing State, making in all 1,792 field plats each year that we shall have samples from for measurement of fiber properties and for spinning tests.

In the meantime additional researches are being organized around our present knowledge of the factors that influence quality of fiber. We know that length, fineness and probably a great many other properties of cotton fibers are inherited, but we do not know just how these are inherited or how the different desirable properties might be combined in one variety or strain of cotton. We are, therefore, organizing genetic researches at four different places in the main cotton belt in cooperation with State colleges and stations.

Studies have prompted the planning of enlarged physiological and ecological researches at several different points in the East and middle South. The work with cotton in the irrigated valleys of the Southwest is also furnishing opportunity for studies of this type.

In the meantime, under Secretary Wallace's leadership, committees of the Department of Agriculture are making an extensive and intensive survey and study of all of the outstanding blood lines of animals and strains of plants. The aim is to round up all of the superior germ plasm and wherever something outstanding is found, such as superior strains of cotton or corn, these will be increased and their progeny contribute to improved quality and increased production in American agriculture.

It is well to note here too that much improvement in the staple length and in other properties of the American cotton has been made during the past few years. Marked improvement has also been made in the breeding work done by our leading plant breeders. Practically all of the breeders are now selecting for longer, stronger, and more uniform staple. Many of the highest yielding cottons tested during the past few years produce staple of an inch or better.

With these superior varieties of inch cotton as a basis, the Department of Agriculture in cooperation with the Experiment Stations and Extension Service in the several States has for several years now worked steadily toward standardizing cotton production according to the one-variety community plan. In the States where this plan is being pushed by the educational and extension agencies, it has grown quite rapidly and indications are that within the next year or two it will be an important factor in providing the large even-running lots of superior cotton for the trade from different sections of the cotton belt.

Alkalis and Wool

By Frederick R. Harrison

Recent investigation shows possibility of decreasing scouring costs

ALTHOUGH it has been a matter of common knowledge that alkalis are deleterious to wool, there has been much controversy and difference of opinion about the matter. Some have felt that one alkali is more harmful or less harmful than are others. It has been recognized also that increasing amounts of any given alkali, other conditions remaining constant, have increasingly harmful effects on the fiber. The same is also true when the alkali concentration is constant, but the temperature is increased. In order to determine the relative action of the various alkalis on wool, a series of carefully controlled laboratory tests were made on skeins of fine worsted yarn.

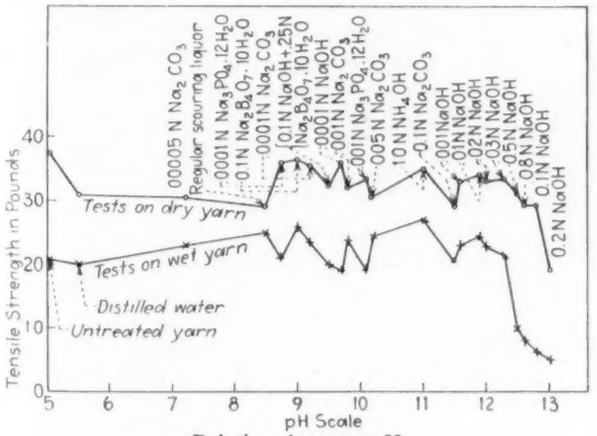
Each skein was carefully wound on a 1½-yd. reel for 40 turns so that it contained exactly 60 yd. of unbroken yarn. Series of progressively increasing strengths of several common alkalis were made up and pH determinations made on each before beginning the test. For each test seven skeins were treated in each alkali solution. They were soaked in a bath which in proportion to the amount of wool represented by the skeins was similar to a wool-scouring bath. In every test the temperature was carefully maintained at 120° F., which is a normal wool-scouring temperature. The duration of the test in every instance was exactly 15 min., during which the skeins were gently worked in the solution.

Immediately upon completion of each test the skeins were removed and thoroughly rinsed in continuously running warm water for 30 min. This assured the removal of all residual alkali and was fully as thorough as the average practical condition of rinsing in connection with wool scouring. With every solution, two complete sets of seven skeins were treated. After rinsing, one set was allowed to air dry before making the breaking tests, and the other set was kept under water in order to make tensive strength tests while the yarn was wet.

The tests showed that similar molecular concentrations are not directly comparable in their effect on the strength of the wool fiber; but that the pH of the solution is the determining factor, regardless of what alkali is used More specifically the tests established the fact that up to a pH of 12 at 120° F., the amount or kind of alkali has no harmful effect on wool, so far as that effect can be measured in terms of tensile strength. Above a pH of 12 it is evident from the strength and color (yellowing takes place) that the alkali has begun its work of destruction on the basic wool substance. [It is interesting to note that the results of these tests correspond closely to those obtained by Milton Harris at the National Bureau of Standards, and reported in the July issue of the *Journal of Research*. Dr. Harris found that no appreciable damage is done to wool by treatment for 30 min. at 125° F. in sodium carbonate solutions of concentrations lower than about 4 g.p.l. (pH 11.1) or sodium hydroxide solutions lower than about 0.038 g.p.l. (pH 11.8.)—*Editor.*]

Effect of treatment at 120° F. with various alkalis on tensile strength of worsted yarn.

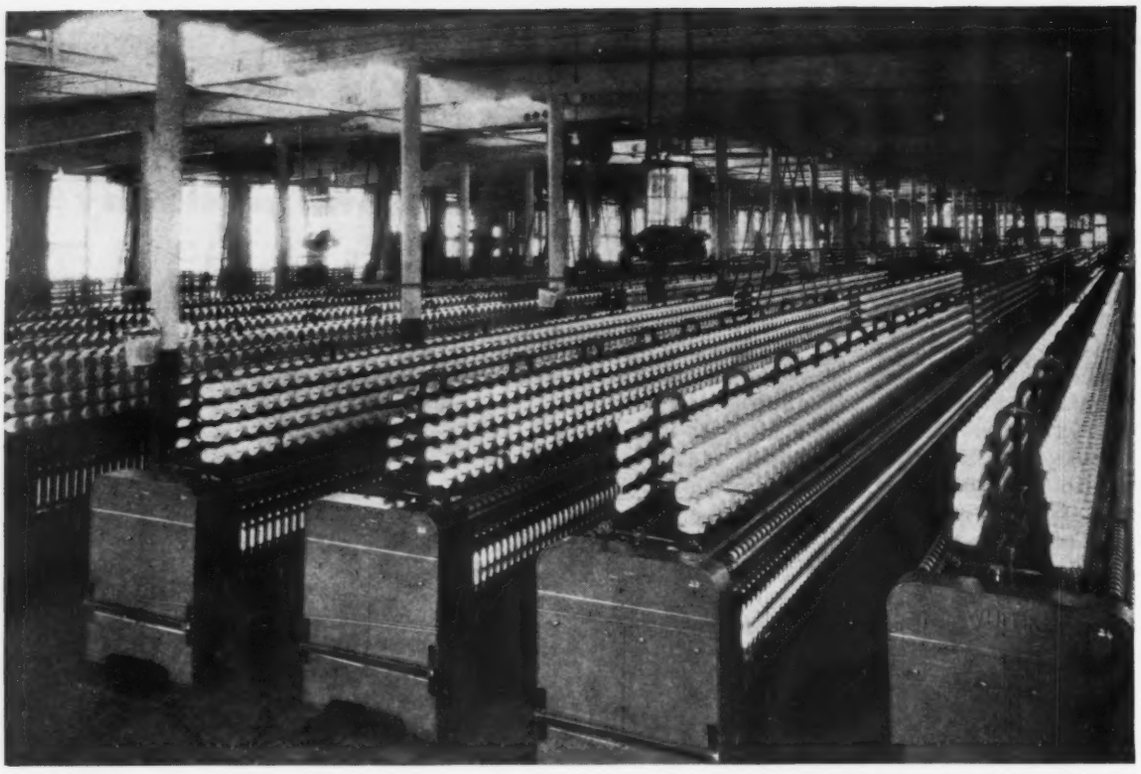
Chemical	pH value	Grams per liter chem. pure	Lb. per 1000 gal. commercial	Lb. tensile strength dry	Lb. tensile strength wet
TRISODIUM PHOSPHATE					
0.0001 N	8.75	0.0380	0.32	36.0	23.5
0.0010 N	10.09	0.3802	3.20	33.5	19.5
SODIUM CARBONATE					
0.0001 N	9.20	0.0053	0.05	35.5	23.5
0.0010 N	9.78	0.0530	0.45	31.5	24.0
0.0050 N	10.15	0.2650	2.25	29.5	24.5
0.1000 N	11.50	5.3000	45.00	28.5	20.5
AMMONIA		28%	18°		
1.0000 N	11.00	125.1700	520.00	35.0	26.5
CAUSTIC SODA			76%		
0.0001 N	9.70	0.0040	0.03	35.5	19.0
0.0010 N	11.62	0.0400	0.33	33.0	21.0
0.0100 N	11.89	0.4001	3.33	34.0	24.5
0.0200 N	12.00	0.8002	6.66	28.8	20.5
0.0300 N	12.28	1.2003	10.00	33.5	21.5
0.0500 N	12.54	2.0005	16.66	30.5	10.5
0.1000 N	12.77	4.0010	33.33	28.5	8.0
0.2000 N	13.01	8.0020	66.66	19.0	5.5
BORAX					
0.1000 N	8.98	19.0720	158.87	36.5	26.0
DISTILLED WATER	5.55	.....	.....	31.0	20.0
Average Strength of Untreated Skeins				37.5	20.5



Relations between pH and tensile strength.

As can be seen from the accompanying table, the usual relationship between wet and dry tensile strengths existed in this series, indicating that no appreciable or harmful quantity of residual alkali remained in the skeins which were dried after rinsing. Although the curves of strengths as shown on the accompanying chart are not smooth and regular, the variations are accounted for by the fact that even the most carefully manufactured yarn has variations in count and strength.

There has always been a fear of the use of certain alkalis in wool scouring. Since soapy wool scouring liquors are excellent buffers, it appears that even caustic can be used safely as a soap builder in scouring wool, provided, of course, suitable watch is kept on the pH. If plant trials confirm the results of these laboratory tests, it should be possible to effect a considerable reduction in the cost of the wool-scouring operation.



Every frame has been gone over and put in first-class condition.

Improved Quality

Stressed by American Yarn & Processing Co. in modernization move now under way

IN ORDER to keep abreast of the times, and coincidently to place its manufacturing operations upon a more efficient basis, the American Yarn & Processing Co., Mount Holly, N. C., is completing an extensive modernization program. In addition to replacing and revamping considerable heavy machinery, innumerable minor repairs and corrections are being made in all of the plants, the kind of grooming which every mill needs annually, but usually allows to run from year to year. Considerable new equipment has been added to the spinning mills and mercerizing plant.

The biggest single improvement to the spinning mills is in the picking departments. Formerly, the cotton was opened in the storage warehouse, run through a bale breaker located there, and drawn by air through a pipe across the mill yard into the picking room. The new picking departments, self-contained and housed in the original rooms, have new equipment throughout, arranged more or less alike. In fact, two of the spinning mills, Adrian and Madora, are twin plants, except that the latter is newer, having been built in 1925.

The new picking arrangement consists of, first, a Lummus bale mixer mounted on a Saco-Lowell (Kitson) apron adjacent to a Saco-Lowell bale breaker and Buckley beater section, the whole being driven through a Rockwood drive. Next is a cleaning trunk, manufactured by Superior Yarn Mills, Statesville, N. C., from which a suction pipe runs to a Whitin C.O.B. machine, and then a Saco-Lowell condenser at the other end of the room. Attached to the condenser is a Lummus gyrator, in turn connected to a Saco-Lowell hopper which feeds into the regular Saco-Lowell (Aldrich) one-process picking hook-up. The machinery is arranged around the sides of the room so as to leave plenty of floor space for opening cotton. Ordinarily twenty bales are opened at the same time, and a layer of each is fed into the bale mixer.

The carding department in each of the four mills has been completely overhauled, although no new machinery has been added. Rearrangement of the machines facilitates operation and conserves floor space.

Spinning and twisting departments, located in a single large room in each mill, are being separated by means of a wood and glass partition better to control humidity and temperature. In line with this, stairway wells are being inclosed to prevent drafts. These two changes will permit an even humidity of 80% or more, whereas formerly it was almost impossible to secure an even humidity greater than 65%. Regular Parks-Cramer and Bahnson humidifying heads are in use No new spinning or twisting machinery is being installed, since most of the present machinery is relatively

new, being of the Whitin tape-driven variety. In order to produce larger packages with fewer knots, larger rings and longer bobbins have been added, and certain mechanical changes have been made. In addition to these basic changes, every frame in the four mills has been gone over and put in first-class condition. Incidentally, all frames are powered with the direct and four-frame overhead type of drive, and spin $1\frac{1}{8}$- to $1\frac{5}{8}$-in. staple cotton. The management states that these changes to the spinning and twisting departments permit the manufacture of 30s to 120s hosiery and weaving yarns.

The warping department is being overhauled and rearranged. All spools are being painted according to a special color scheme to facilitate count identification.

The American Processing plant—that is, the mercerizing plant, has been even more completely revamped than have the spinning mills. Buildings and machinery have been reconditioned throughout, and much new equipment has been added, making the plant one of the most up-to-date of its kind.

The two mercerizing ranges have been rebuilt almost entirely. All of the boxes have been relined with Monel metal and other non-corrosive materials and rollers have been recovered. Development of a new yarn-delivery device permits a more even tension on yarn going through the ranges. All pipes and valves have been replaced with non-corrosive metals, and some have been rearranged to give more efficient operation. Automatic controls throughout the plant insure better mercerizing. Particular emphasis is placed on those instruments used in connection with the ranges. These include Fulton Sylphon automatic thermostats to control temperature of the caustic soda solutions, a Bailey gravity recorder to check the density of caustic, a Frick 20-ton ice compressor to cool the caustic, and a Leeds & Northrup electric pH control for acid. The pH and titer of the mercerizing solutions are checked at regular intervals.

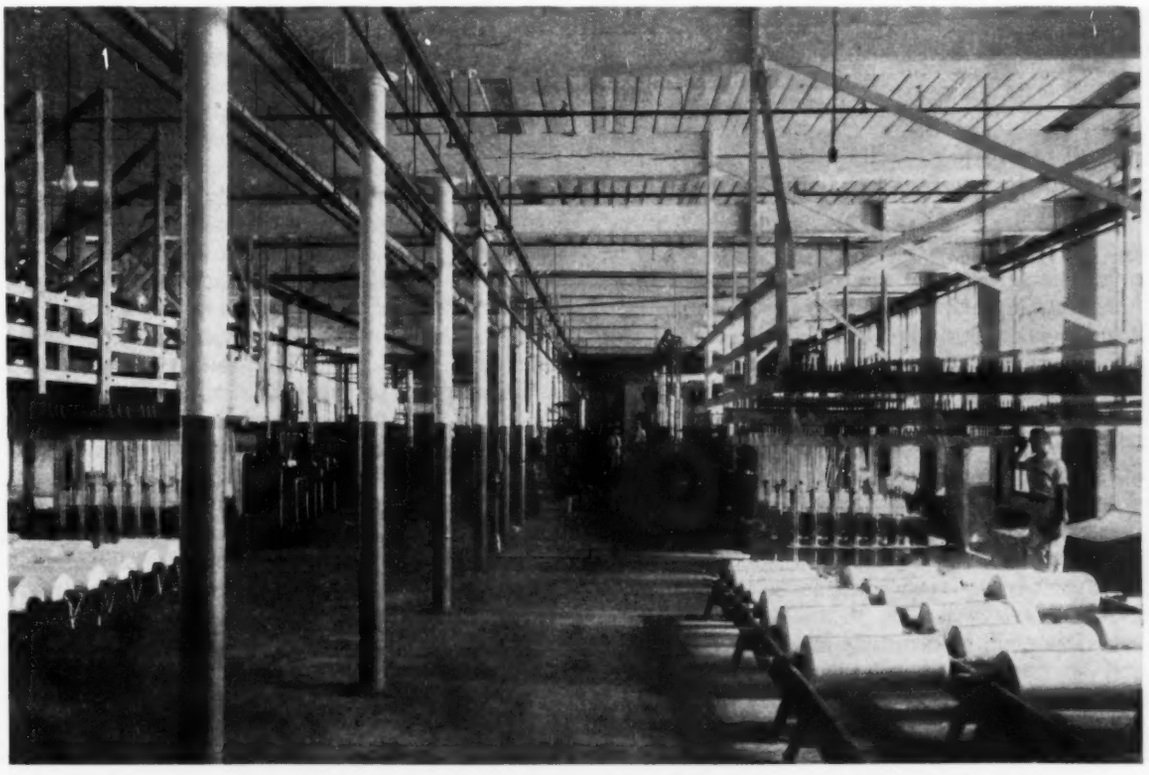
The two large Proctor & Schwartz dryers have been completely rebuilt and equipped with Fulton Sylphon automatic thermostats in order to permit drying at a very low temperature. Replacement of all belt drives with chain drives (mostly Link-Belt) eliminates slippage and makes drying more even. New conveyor chains have been installed. Aluminum paint on the dryers keeps down corrosion. Yarn boxes have been covered with new fabric to insure cleanliness and prevent snagging.

Additional filters and new machines are now in use in the evaporating room, and a new method of cleaning and purifying the caustic solution has been developed. Three new outside 25,000-gal. metal tanks for storing, mixing, and settling the caustic have been purchased.

New control instruments installed in the boiler room include Fulton Sylphon thermostats and a device for determining the pH of condensed steam. Non-corrosive pipes and valves, in addition to serving the mercerizing ranges, are now carrying water to every part of the plant.

The quilling and winding rooms have been thoroughly overhauled, and a yarn-testing laboratory has been established in the former. This laboratory contains three knitting machines and Alfred Suter testing devices, which include a breaker, twist tester, seriplane, conditioning oven, etc. The chemical laboratories have also been brought up to date, with the addition of new test dye vats, oil extractors, centrifuge, roulette-type pH outfit, and other devices. Incidentally, several smaller pH outfits are now in use at strategic points.

Other improvements, ingeniously worked out by the management and said to be exclusive, include (1) a new method of conditioning yarn, (2) a new method and equipment for inspecting and packing the finished product, and (3) a new system of lighting the inspecting and packing department.



The two mercerizing ranges have been rebuilt and a new yarn-delivery device has been installed.

In Rib-Knit Fabric

Which is the face? And other problems which concern the designer and knitter

By J. Frederick Cahill

◆ *In our October issue, page 86, Mr. Cahill completed a series of articles on designing for jersey-type fabric.* In this article, mainly for the benefit of those jersey-cloth designers who occasionally find it necessary to undertake rib designing, he explains some of the differences between the two lines of work and in particular points out the limitations of pattern which face the designer of rib fabrics.*

THE writer has been asked many times to state which side of a rib fabric is the face of the fabric and whether there is really any choice. There usually is a choice.

In considering this question, it must be borne in mind that latch-needle rib-knitting machines almost invariably have the needles operating in planes at right angles to each other. This is true in machines with an external cylinder, in which the needles operate in a vertical plane with the hooks upward and turned outward, and with an internal dial in which the needles operate in a horizontal plane with the hooks outward and turned upward. It is also true in machines with an external circular plate in which the needles operate in a horizontal plane with the hooks inward and turned upward and an internal cylinder in which the needles operate in a vertical plane with the hooks upward and turned inward. In either or both of these types of machine the yarn is usually fed to, and the stitch is entirely drawn by, the needles in the external member, either circular plate or external cylinder, while the needles in the internal cylinder or the dial, as the case may be, merely form a loop of the yarn drawn over them by the needles in the external member.

Yarn Creep Causes Nap

As the yarn is drawn into loops by the needle in the external member there is, naturally, a certain amount of "creep" to the yarn, and this throws up a slight nap. This nap on the yarn usually shows on the surface of the fabric, giving it a somewhat fuzzy appearance. The needles in the internal member, however, produce no effect of "creep" or, at most, the very slight amount caused by drawing a loop straight through the preceding loop; and the result is a clean, smooth surface. Therefore, as there are no hard and fast rules as to which side of a ribbed fabric is actually the face side, it would be merely a matter of good judgment to select the better-appearing side.

On most, if not all, rib-knitting machines using latch needles and on one type of rib machine using spring-beard needles, the smoothest side of the fabric is on the inside of the tube of fabric as it comes from the machine; while on another type of spring-needle rib machine, the smoother side is on the outside of the tube.

In an instance that came to this writer's attention some years ago, a disregard of this natural difference in the surfaces of a ribbed fabric resulted in a practice of turning the tube inside out and brushing up a nap on the beautifully smooth inside surface of the fabric when the outside could have just as well been brushed.

Designing Rib Fabrics

It is, perhaps, fortunate that the construction of rib-knitting machinery of both the latch- and spring-needle varieties is such as to make the knitting of designs and figures, in solid colors in both figure and ground, on the smoother side very readily possible. In fact, on machines of the rib jacquard type (the type in which lever selectors are actuated by means of punched cards), it is almost imperative. This is due to the fact that, in the knitting of designs and figures in solid colors without sacrificing the rib effect of the fabric, tuck stitches should not be employed. Knitting without tuck stitches means that every needle selected to knit in a definite course must in one movement be raised or pushed out, as the case may be, to a full knitting position from a position in which the top of the hook is below or inside the line of needles of the opposite set.

It is the usual practice in knitting designs on rib machines, to apply the selectors, whether wheels or lever selectors, to the set of needles opposite to that to which the yarn is fed. There being no selectors applied to the set of needles to which the yarn is being fed, it will be evident that every needle in that set will draw a stitch, while in the opposite set only those needles which are acted upon by the selectors are pushed into a position to receive the yarn and draw a loop. As all the needles in one set draw loops or knit at each feed, in those spaces in which there are no needles of the opposite set pushed into position to receive the yarn, knitting takes place on one set of needles only and that set always is considered as knitting the back of the fabric. This process is called "welting on the back"; and the result is that, in the rib knitting of designs and figures, there are no floats or loose threads on the back of the fabric extending from a figure of one color to the next figure of the same color.

If a design of two colors is being knitted, two feeds are required to knit one course on the face of the fabric. This is because the needles which are pushed into position to receive the yarn at one feed—with light yarn, say—are withheld at the next feed—with dark yarn—while the needles which were withheld at the light-yarn feed are pushed into position to receive the dark yarn. This results in both figure and background having solid colors, as only the needles that are intended to receive the color required are pushed into position. At the same time the yarn delivered at each feed is caught

*May 28 and July, 1932; February, April, and December, 1933; June, 1934; and February 14 and October, 1935.

and drawn into a loop by each needle of the set producing the back of the fabric, with the result that alternate stripes of light and dark yarns are formed (two courses of stripes on the back to one figure course on the face) giving the back of the fabric an appearance that is similar to that of a plain rib fabric knit of two colors of yarn on alternate feeds.

If, in a similar case, a ribbed-fabric design consists of three colors or four colors, the same conditions will prevail. Three feeds or four feeds, respectively, will be required to produce one complete course or row of stitches on the face of the fabric, while the set of needles knitting the back of the fabric will form a complete course at each feed, resulting in alternate stripes, of one course each, of the three colors or four colors in the order in which they are placed in the feeds.

Four colors is about a reasonable limit in number for use in knitting designs on rib machines without stripers, because of the fact that the needles forming the design on the face of the fabric are sometimes required to hold their loops of yarn of a given color during one complete revolution of the machine.

Such would be the case on a four-feed machine, while on an eight-feed machine using four colors the same conditions would exist in that three sets of cams would be passed over the needles so holding their loops before the feed which last delivered yarn to such needles would again be in a position to act upon them.

This condition, however, would obtain only in cases in which the pattern called for a vertical section of design in any one color consisting of several courses. A flagrant case of this condition would be that of vertical stripes in four colors. In such instance the effect would not only be an excess strain on the loops due to their being held so long; but, in addition, there would be a distinct, puffed-up welt on the back of the fabric consisting of three courses, one of each color not knitted on the face of the fabric.

When Pattern Wheels Are Used

Rib machines for knitting "pattern fabrics" are usually equipped with an even number of feeds, as two, four, six, or eight; although sometimes, for special effects, an odd number is employed.

When pattern wheels are used, the conditions which govern the height and width of the design fields on rib-knitting machines are the same as those which govern on loop-wheel, spring-needle machines and sinker-top, latch-needle machines; and the number of needles in the design column and the number of courses in the vertical height or repeat of the design may sometimes be varied by using wheels of different sizes. The relation of the number of needles in the cylinder to the number of needle spaces in the wheels obtains in rib knitting as well as in machines using a single set of needles. The relation, however, is usually fixed at the time a machine is built.

Rib-knitting machinery, whether using latch needles or spring-beard needles, is invariably equipped with a fixed number of needle spaces in the members in which the needles operate; and the only way the number of needles in a machine can be changed is by a change in the members. Wheels and selectors on rib-knitting machines are usually applied more readily to the needles operating in a vertical plane; that is, those in the cylinder, whether it be internal or external. This is due to mechanical expediency, in that the needle slots in such members always lie in parallel lines; and whether the needles are high or low, up or down, the lines in which the butts lie are always the same distance apart.

In the case of the horizontal external plate and the horizontal internal dial the needles lie in radial lines; and any movement of the needles, inward or outward, decreases or increases the lateral distance between the butts. This must be compensated for in the construction of the selectors. Such compensation is very satisfactorily provided for in one type of rib-knitting machine, using wheels located in the dial, by the use of movable jacks or fingers in the pattern wheels. The movable jacks are carried in a slotted wheel, similar to a ribber dial, and are actuated by a cam which drives them outward in their slots, thus increasing the distance between their outer ends as the distance between the butts of the needles which they push out is increased. Cams then quickly withdraw the jacks to avoid interference with the butts of needles which are not required to knit.

In the case of machines using wheels to actuate the needles in the cylinder, either external or internal, the angular position of the wheel is depended upon to raise the needles to the required full knitting position and at the same time leave needles not required for the purposes of the design in a position below the line of yarn feed.

The extent of the vertical movement required of needles necessary for the design depends entirely upon the length of the latch of the needle; and it is evident that the shorter the latch, the less the required movement. Long latches, however, are required only where tuck stitches are used.

Tuck Stitches on Rib Machines

Sometimes, of course, fabrics are made on rib machines by the use of tuck stitches, but such fabrics are usually of the "half-cardigan" variety and the design is most distinct on what would ordinarily be the back of the fabric. If the stitches are tucked only in the figures, the resultant fabric contains a semi-solid color figure, really an accordion effect, in a mixed ground of ribbed stitch consisting of alternate courses of the colors used in the design. If tuck stitches are used in both figure and ground, the entire fabric is of an accordion effect with one color predominating in the figure and the other predominating in the ground, the alternate color showing through as an undertone. Such fabrics, however, lack life in the designs as well as in the texture of the fabric and are usually heavier for a given gage of machine than a ribbed fabric. In either case, whether partly or wholly of tucked stitches, the design shows rather dimly on what is ordinarily the back of a half-cardigan fabric, while the side which is normally the face shows alternate courses of the colors used.

By the use of cut pressers fabrics of this nature have been made on spring-needle rib machines, but the character of such fabrics seems to have no very great appeal. Machines of this kind, however, are readily adaptable to the knitting of snappy ribbed designs at no very great expense for reconstruction.

Latch-needle rib machines that were originally built for the purpose of knitting a plain ribbed fabric may readily be reconstructed to knit "pattern fabrics" by providing the dial with cams that will draw a stitch in a manner similar to that in which the cylinder cams ordinarily draw the stitch and feeding the yarn to the dial needles. The cams which draw the cylinder stitch may then be slowed down by lengthening the angle and the cylinder equipped with needles suitable for design knitting and with wheels to actuate them.

Recovery Process

Reduces chemical costs in soaking rayon

By Peter C. Wayner

THE comparatively high initial cost of rayon soaking materials has caused some mills to install devices for reclaiming these compounds. A modern recovery system, which should result in considerable savings of soaking solutions, time, and labor, can be installed in any rayon soaking room at little expense. Such a system is illustrated in the accompanying diagram.

A reclaiming tank, large enough to hold 75% of the soaking solution is installed in the floor approximately 2 ft. from the waste pipe on the extractor. This waste pipe is connected with the tank by means of a coupling or union attached to a flexible hose. The coupling or union is disconnected when not reclaiming.

The reclaiming tank itself is pitched toward the center, so that the reclaimed solution flows by gravity to the check valve located there. This arrangement permits the pump to drain the tank easily. A pipe runs from the center of the reclaiming tank to the intake on a suction pump, at which point a second check valve is located to prevent water used to prime the pump from running into the reclaiming tank.

A "T" is installed at the pump outlet, with a pipe from one arm running to the sewer, and a pipe from the other arm running to all the soaking tubs. Valves are located in both pipes as near as possible to the "T." The sewer valve remains closed at all times, except when contents of the reclaiming tank are being discarded. The pipe running to the tubs has an outlet to each tub and also a valve at each outlet.

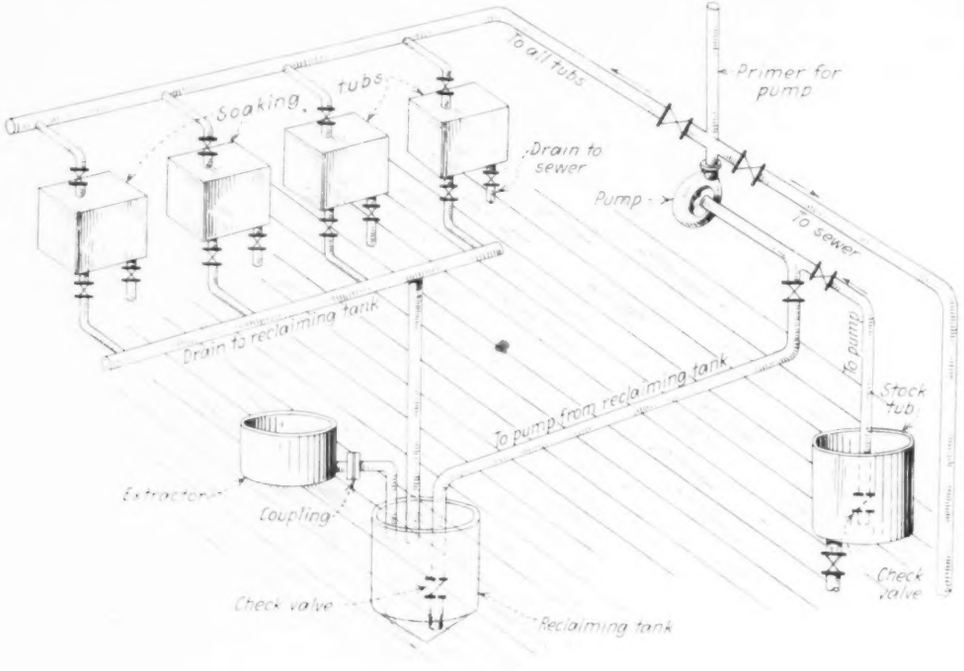
The soaking solution is pumped to any desired tub simply by closing all outlets except the one to that tub and starting the pump. The first gallon or two of the solution is caught in a pail and discarded, since it contains water used to prime the pump, as well as solutions left in the pipe from previous reclaiming operations.

Each soaking tub has two outlet valves, one leading to the sewer and the other to the reclaiming tank. The latter permits reclaiming the solution from the tubs, as well as from the extractor. In addition to reclaiming the soaking solution, tubs equipped as described tend to save considerable time by eliminating the dripping process as practiced in some mills.

The extractor should be washed after each extraction of yarn soaked in different solutions in order to prevent mixture of soaking formulas or colors. During this washing procedure the coupling or union is disconnected. If desired, water used in washing can be run into the reclaiming tank and pumped from there to the sewer by opening the valve at the pump and by closing the valve to the tubs.

An additional improvement can be made in mills employing a stock tub from which stock solution is added to the reclaimed soaking solutions. This is accomplished by running a pipe with a check valve at the end from the stock tub to the intake end of the pump. Valves as near the intake as possible are installed on the pipes from the reclaiming tank and from the stock tub. With one valve closed at all times, the solution can be pumped from either the stock tub or the reclaiming tank to any soaking tub.

As was stated above, the system illustrated is inexpensive to install and maintain, and in the average plant should pay for itself in a few months.



Recovery system for rayon soaking solutions

Kezar Falls Woolen Co. adds

Humidification System

As part of continuous modernization program

By Francis A. Westbrook
Consulting Engineer

IN VIEW of the fact that less than 15% of the woolen mills in this country have done much in the way of air conditioning, it is interesting to note that Kezar Falls Woolen Co., Kezar Falls, Me., has recently installed humidifying equipment in three departments. The continuous modernization policy of this company and the beneficial effects of it were discussed by this writer in the December, 1933, issue of TEXTILE WORLD. During the two years since that article was written, an old ring doffer has been replaced by an up-to-date tape condenser, an interdepartmental telephone system has been put in operation, and humidifying systems have been installed in the carding, spinning, and finishing departments. Decided advantages have resulted from controlled humidity in these departments, and a description of the system seems well worth while.

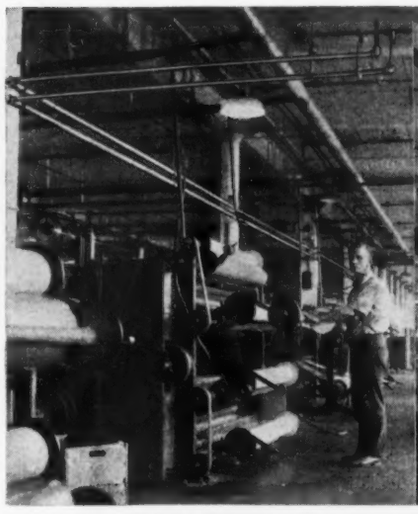


Fig 1. Card room with atomizers on columns.

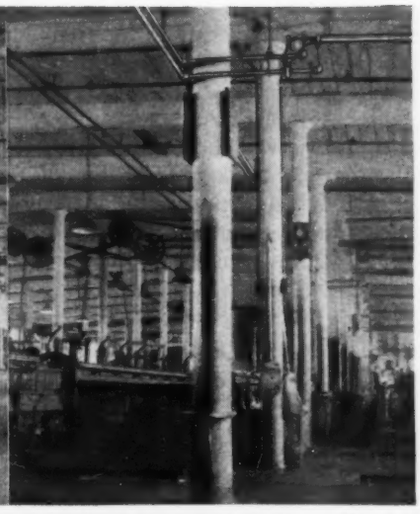


Fig. 2. Control station and atomizers in mule spinning department.

The mill makes a good grade of woolens, using virgin wool, noils, and garnetted stock as raw materials. These fibers call for the use of an emulsion of oil and water to obtain the best results, and in blending require a mixing picker. In the first operation, that of carding, there is considerable friction. Undue dryness at this point causes the generation of a great deal of static electricity with unfortunate results. That is, it makes for a wild condition of the stock in process, harshness, brittleness, and lack of elasticity—all of which contribute to wear and tear, loss of stock, and poor control. This havoc which is created by static electricity is evident in any typical carding department from the great amount of broken fiber suspended in the atmosphere of the room. In addition, the carding process is abusive to the material itself and tends to dissipate the emulsion which it contains. If the evaporation of the emulsion is uncontrolled, the stock does not condense uniformly, and the resulting variation in the dry weight of the roping constitutes a serious manufacturing drawback. The humidifying system installed in the card room retards and regulates the evaporation of the emulsion and preserves an adequate moisture content in the roping. Thus, the wool is in a better condition for succeeding processes. There is less breakage of the fibers. Troubles from static electricity have been eliminated.

Mule and Frame Spinning

Proper humidification also has proved of great benefit in both mule and frame spinning, reducing breakage and permitting the production of more uniform counts of yarn. This latter point is important, since yarn that is too heavy will produce a fabric above normal weight, on which the mill gets no price consideration, while yarn that is too light will produce an underweight fabric, on which the buyer will call for an adjustment.

Correct moisture content in the roping and in the atmosphere is a prime requirement, because the wool should be continually giving off moisture during the spinning process to induce the fibers to contract and to curl and cling together. The relative humidity in the spinning room should be less than that in the carding room in order to prevent felting. For example, 50% relative humidity is sufficient to prevent too rapid drying in the spinning room, whereas it has been found advantageous to maintain the relative humidity at 65% in the carding department.

Finishing Department

In the finishing room the processes of inspecting, perching, etc., necessitate the continued exposure of the cloth to the air. Consequently, if the room is too dry, there is a loss of weight and, often, impairment of the hand and appearance of the product. If, on the other hand, the room is too wet, the cloth still may acquire an undesirable feel. It is not surprising therefore, that properly controlled atmospheric conditions in the finishing room have been of help in obtaining the type and uniformity of finish wanted by the customer. Incidentally, fly at the shears in the finishing room has been practically eliminated.

In the accompanying illustrations are shown part of the humidifying equipment installed at Kezar Falls. Atomizers and automatic control stations with the rela-

tive humidities and regain they are designed to maintain are as follows:

Department	Atomizers	Control Stations	Humidity Per cent	Regain Per cent
Carding (second floor)	26	1	65	8½
Mule spinning (third floor)	32	2	50	6½
Ring spinning (third floor)	10	1	50	6½
Finishing room (basement)	21	1	65	8½

The control stations are guaranteed to operate on changes of not over 1° of the wet- or dry-bulb reading of the sling psychrometer and to maintain the same relative humidity, regardless of temperature changes. The proper water level for the atomizers is provided by small wall water-supply tanks on each floor, and the compressed air for operating the atomizers is furnished by a 10x9 air compressor driven by a 25-hp. induction motor having sealed sleeve bearings, and multiple V-belt drive consisting of 5 belts. Associated with this is a 30-in. x 6 ft. air receiver and a 10 in. x 8 ft. after-cooler. The capacity of the compressor installation provides for an increase in demand of 30% for future additions to the humidifying equipment in other departments.

The ¾-in. galvanized water and air pipes for the atomizer system are run parallel to each other and at the proper elevation above the floor and machines. The atomizers are placed at various heights, according to the type of work which is being carried on in each department, and are spaced with regard to the machinery layout, so as to be out of the way of the workers and at the same time provide the desired humidification. An interesting point is that two automatic control stations were provided in the carding department, because one side of the room experiences a higher temperature caused by sunlight than the other side, thus giving two different conditions in the same room. It frequently happens that the atomizers are in operation on one side and not on the other, when the sun is hot.

As compressed air was being installed for the operation of the humidifiers, it was decided to provide for its use to clean dust, fly, lint, etc., from the machinery. For this purpose, cleaning stations have been installed at regular intervals with quick-hitch couplings. With these, the operator can make his hitch to the air supply with his portable hose and go over a section of the room within reach of the length of hose which he uses. Frequent cleaning of the machinery is desirable to prevent dust, lint, and other foreign matter getting into the cloth, and to provide better working conditions.

Sinker-Cam Adjustment

For increased efficiency and reduced waste in seamless-hosiery knitting

By George E. Cottrell

MUCH has been written about the proper method of sinker-cam adjustment in seamless hosiery machinery, but there nevertheless remains a considerable amount still unsaid. In this article I shall try to explain just how to make these cam adjustments so that the stitch loops will be formed and knocked over with the least strain on the yarn and also so that the setting will be best for plating. This is very important in making reverse-plated patterns.

First let us consider the radial adjustment of the sinker cams. They should be set so that when the sinker is moved to its inward position, the bottom of the throat of the sinker will be even with the back side of a raised needle, as shown in Fig. 1. This setting will be right for most knitting conditions. Slight variations from this position may be made in cases where conditions are not normal.

Now let us consider the circumferential or bumper-screw adjustment. The bumper screws should be adjusted so that the sinker will arrive at its innermost position at the same time that the needle which is drawing yarn for the loop is at its lowest point. One reason for this setting is to insure that the sinkers will aid the needles in drawing yarn; and another reason is to arrange that, with this setting, the sinkers will be moving inward as the yarn is being drawn to form loops, thus presenting a distributed wearing surface to the yarn. In my experience, this setting allows the sinkers to be used for a very much longer time before showing any wear on their landing portion; and also it is the best setting for perfect plating.

When, after the right and left sinker cams have been carefully adjusted, it is found that the heel and toe courses are uneven, they should be evened by altering one of the needle stitch cams. This takes a little more time, but it is worth while, because it will eliminate heel and toe knitting troubles.

Sinkers are now available which make perfect plating much more easy of accomplishment. An example of such a sinker is shown at Fig. 2, and it will be noted that it has the landing portion at two levels. When the plating yarns are being drawn, the facing yarn is landed on the lower level, while the backing yarn is landed on the upper level. Now, as the sinker is moving forward as the yarns are landed, this movement causes the facing yarn to be forced close to the needles, thus causing the two yarns to remain in proper plating relation to each other. The sinker also causes plating to be accomplished with much less tension on the plating yarns.

In using this method of sinker-cam adjustment, it will be found that loose courses can be made to show much plainer and with less trouble than by any other method. A correct understanding of these fundamental cam adjustments will bring about improved efficiency in production and will keep knitting-room waste down to a more reasonable level.

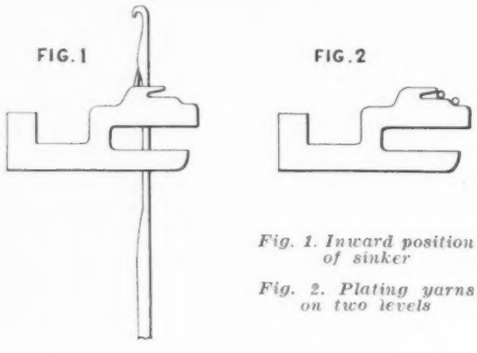


Fig. 1. Inward position of sinker

Fig. 2. Plating yarns on two levels

Spinning Wins!

Over football at Greenville S.T.A. meeting

DESPITE the distraction of football games all over the South and a street parade just outside the meeting hall, a large number of operating executives attended the fall meeting of the Spinners Division of the Southern Textile Association held Oct. 26 at Greenville, S. C. Joseph C. Cobb, Chiquola Mfg. Co., Honea Path, S. C., chairman of the group, presided.

Chairman Joe Cobb (center) night superintendent, Chiquola Mfg. Co., and a pair of loyal supporters of the Southern Textile Association. The gentleman on the left, who took a leading part in the discussion, is J. S. Lockman, overseer of spinning, Monarch Mills, Lockhart, S. C. The young fellow on the right is W. E. Hammond, superintendent, Balfour Mills, who recently observed his 50th anniversary in the mill business. His boss and president, Captain Ellison A. Smyth, not long ago celebrated his 88th birthday. Mr. Hammond and Captain Smyth have worked together for the last 40 years.

The first discussion was on long drafts for print-cloth filling. George T. Fleming, Piedmont (S. C.) Mfg. Co., reported a draft of 20 on single-roving 23s, and a draft of 16 on 14s single-roving filling made from $\frac{7}{8}$-in. cotton. John W. Robinson, Pacific Mills, Columbia, S. C., reported a draft of 16.75 on double-roving 30s warp made from inch-plus cotton. H. Thompson, Chiquola Mfg. Co., reported a draft of 20.5 on double-roving 30s warp made from inch-plus cotton, and declared that the breaking strength is the same and the yarn is very even.

With reference to shell-top rolls as compared with solid rolls, A. L. Ellis, Pelzer (S. C.) Mfg. Co., asserted that he has been using shell-top rolls for nineteen years and likes them very much because they do not wear out the front saddle. Another member added that the shell rolls do not have to be oiled so often as solid rolls, due to the use of a spring-bottom cup and non-fluid oil. One oiling every two weeks, he said, is sufficient. Mr. Thompson, in answer to a question, remarked that he has solid rolls; when running 16 hr. he oils front rolls daily and middle and back rolls twice weekly.

Actual figures relative to long-draft spinning were reported as follows: John S. Lockman, Monarch Mills, Lockhart, S. C., uses a draft of 20.68 to 21.68 on double-roving, 3-hank, 30s warp made from $1\frac{1}{8}$-in. cotton; twist, 25.30 and 25.40; breaking strength, 70 to 77 lb. Mr. Robinson uses a draft of 16.75 on double-roving 30s warp made from 1-in. cotton; twist, 25.18; breaking strength, 64 to 68 lb. Mr. Sharp, Victor-Monaghan Co., Greenville, S. C., uses a draft of 28.6 on 2.80 double-roving 40s warp made from $1\frac{1}{32}$-in. cotton; twist, 28; breaking strength, 42 lb. He uses a draft of 21.4 on 30s warp; twist, 25; breaking strength, 78 lb. W. E. Hammond, Balfour (N. C.) Mills, uses a draft of 15.31 on 4.10-hank roving (doubled) 30s warp, made of 1-in. western cotton; breaking strength, 60 lb. J. F. Chalmers, Greenwood (S. C.) Cotton Mills, uses a draft of 18.60 on 3.50-hank roving 31s warp made from 1-in. cotton; he uses a draft of 18.20 on 4.40-hank filling made of $1\frac{1}{8}$-in. cotton.

Opinion differed somewhat as to the best break draft on spinning. Mr. Thompson said that he found less ends down after changing his break draft from 1.07 to 1.12 when his total draft was 16. At the time of the change, he was spinning 3.45 single-roving 40s filling of $1\frac{1}{32}$-in. middling cotton, with a front-roll speed of 120 r.p.m.

It was suggested that 1.30 times the square is the proper twist multiple on speeders for use with 1 in. cotton, and that 1.35 times the square is the proper twist multiple for use with local cottons. Further, it was suggested that two teeth be taken out when carding 40 to 60 lb. in 8 hr.

Consensus was that 30s yarn of good quality could be made from $\frac{7}{8}$-in. cotton on a long-draft frame.

When the subject of cork and leather rolls came up, Mr. Hammond said that he prefers calf to cork for top-roll covering. Mr. Chalmers remarked that, while cork does not improve his yarn quality, it is 50% cheaper and gives satisfactory service when used with cotton of good body. K. Smith, Inman Mills, added that long-staple cotton runs better with cork than short-staple cotton because short fibers are more easily picked up. "Eyebrows" on calfskin can be eliminated, according to Mr. Hammond, by tacking a $\frac{1}{2}$-in. strip of leather across the clearer. W. W. Cobb, Norris Cotton Mill, Cateechee, S. C., elaborated on this suggestion, explaining that the strip of leather should be cemented to the clearer cloth about $\frac{1}{4}$ in. from the front in such a manner that clearer waste is thrown back out of the way.

Hearty approval of overhead cleaners was expressed by all the members. The only objection to this type cleaner, Mr. Chalmers said, is that it tends to collect the humidity from the air and deposit it on the rings. Humidifier heads are being raised in an effort to overcome this, and humidity in the spinning has been dropped from 55 to 50%. From the standpoint of cleaning the devices are functioning perfectly.

The final subject for discussion dealt with bobbins. It was agreed that both old and new quills often have a tendency to vibrate, and the extent of this vibration can be determined by carefully inspecting the quill while the spindle is turning at a slow speed. J. M. Nichols, Monarch Mills, Union, S. C., explained that he has each new bobbin carefully inspected and tested before use. The test consists of slipping the bobbin on a true spindle.

Consensus was that the ridged male bobbin is preferable to the grooved female bobbin, primarily because it is easier to clean. As to methods of preventing filling from sloughing off bobbins on Monday morning, it was urged that the filling be conditioned over the week-end.

Practical hints on preventing streaks, tendering, and other defects in printing with

Aniline Black

By Francis A. Newton

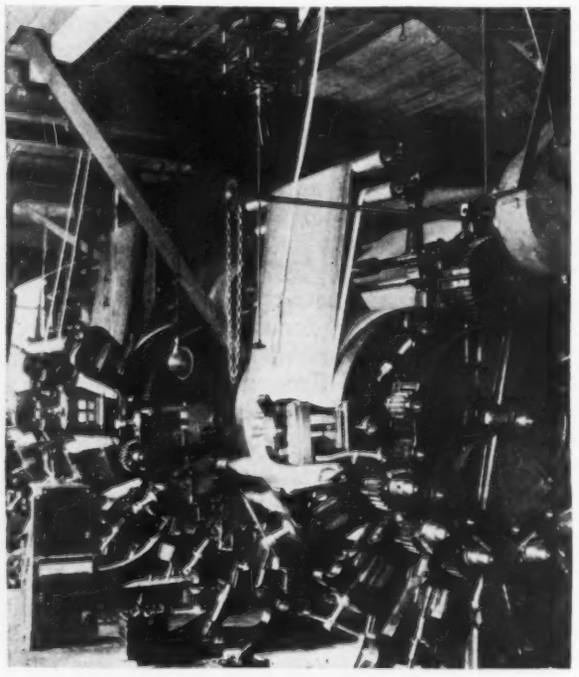
DEFECTS commonly encountered in the production of aniline black prints include streaks, cracks, and tendering. Other difficulties to be guarded against include cuts in the printing rollers and separation or deterioration of the paste. Aniline black prints are frequently produced by the potassium ferrocyanide process, and the following suggestions refer particularly to that method. In general, however, they hold true for other processes of aniline black printing.

A typical recipe for prussiate black is as follows: 4 pints starch-tragacanth thickener, 1 lb. aniline salt, 1 oz. aniline oil, 5 oz. chlorate of soda, 1½ pints water, 9 oz. yellow prussiate, and 1½ pints water, made up to 1 gal. This formula should give a good shade of black; but, if the paste is not properly prepared, it may give rise to doctor streaks and cuts or scratches in the rollers. Again, there is some danger of separation, especially if a higher concentration is used in order to produce a full black.

Preventing Separation

In order to prevent such an occurrence, the prepared color may be heated to 100 to 110° F. and then cooled to room temperature. This procedure is not dangerous, as some may suppose, because the formation of aniline black, and consequent destruction of the printing paste, does not take place for a considerable period of time at such low temperatures.

Ordinarily printing pastes prepared with potassium ferrocyanide as an ogygen carrier will keep for three to four days before showing much tinctorial deterioration. In this connection it is interesting to note that a method has been patented recently in England in which carbonyl ferrocyanide is substituted for the potassium salt. One of the chief advantages claimed for the use of carbonyl ferrocyanide is that pastes made with it will keep for a month without deterioration. Naturally, when large quantities of black are being used, considerable savings can be effected by making the paste in such a way that it will keep for fairly long periods.



In the print shop a careful lookout should be kept for streaks and similar defects. As the aniline black printing paste is colorless, or practically so, addition of a "sighting" color to the paste will prove of great assistance to the printer. Dyes suitable for this purpose are Rhodamines, basic blues and greens, etc. Care should be taken to avoid an excess of the sighting color. Employment of sighting colors has another indirect advantage, in that it obviates stopping the printing machine in order to blacken a portion of the print, so that streaks, scum marks, and similar defects can be detected more readily. In this way possible tendering of the goods on the drying cylinders, together with the further possibility of a break in the ager and consequent tendering of additional cloth, is minimized.

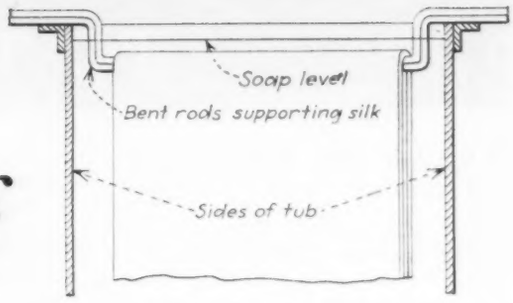
Ageing Conditions

In ageing aniline blacks of any type, one should take great care to maintain the proper steaming conditions. Some printers feel that the use of superheated steam is essential, but in the writer's opinion this is not at all necessary. In fact, his experience has been that the use of saturated steam results in better formation of the black, better absorption of the color by the fiber, and freedom from cracking of certain types of fabrics. When fairly heavy masses of black are being printed, particularly in those cases where gum is used as an ingredient of the thickener, there is real danger of the prints emerging from the ager chamber in a hard and brittle condition. It appears that this danger is enhanced when superheated steam is used, whereas the prints come out of the ager in a comparatively soft condition with less likelihood of cracking when saturated steam is used.

In order to prevent tendering of the goods after ageing, the prints should be developed and washed immediately upon leaving the ager. In some plants it is the practice to pass the goods through ammonia gas which is released in the ageing chamber. The present writer finds that this procedure is usually unnecessary. There is no great objection (and may be some advantage) to a passage through ammonia gas if it is carried out as an additional process continuous with the actual ageing. On the other hand, the practice of allowing aged goods to lie until the ager is free, and then giving them a second run through it, is not recommended. It is better to omit the ammonia passage, as the necessity of allowing the goods to lie for a considerable period of time, coupled with a second passage through the ager, outweighs any possible advantage.

Pre-soaking of silk flat crepes and other aids to

Better Boil-Off



Use of bent rods results in a quicker and more uniform boil-off

By Philip LeBrun

BEST results in boiling-off silk flat crepes require careful manipulation of the goods, not only in the boil-off treatment itself, but also in their preparation for this operation. Flat crepes often contain grease spots from the loom and rust spots from various sources. For this reason, the cloth should be inspected before the boil-off. Large black grease spots, caused by contact with a dirty gear, usually contain small metallic particles, and these may be fixed on the cloth during the boil-off. This can usually be avoided, however, by spot-cleaning the gray goods with an emulsion made by mixing 2 parts of sulphonated olive oil with 1 part each of hexalin and pine oil. This emulsion is applied to the spots and is permitted to soak for about 30 min. before the cloth is put into the boil-off liquor (or the pre-soaking bath, if used).

It is difficult in the regular boil-off to remove all the tinting color from yarns which are improperly steam-set. In the case of light and medium shades, this results in bars which are colored somewhat differently from the rest of the piece. Again, excessive twist in the filling sometimes causes gum bars where the soap liquor cannot completely penetrate the tightly shrunken cloth. It is possible to guard against both of these faults simply by pre-soaking the cloth for 30 to 60 min. at about 180° F. in soft water containing either 1 gal of 28° Bé. ammonia or 10 lb. of borax to 1,000 gal. This pre-soaking treatment removes most of the throwing oils and tints, results in a more even crepe than is obtained if the cloth is put directly into the boiling hot soap, and—by decreasing contamination of the boil-off bath—gives a whiter piece of boiled-off silk.

The "Skein" Method

The most common method of boiling-off flat crepes is by the so-called "skein" method. A full piece of cloth is wound on a collapsible reel, the selvages on the extreme end are stitched to the selvages of the fold beneath it, and the reel is collapsed. The silk is taken off the reel; two smooth, flat sticks are inserted in the center of the rolled-up silk; and the cloth is submerged in the boil-off bath. One stick is used as a support for the silk, while the other is used to help turn the silk every 10 to 15 min. In the customary skein boil-off, part of the cloth is always out of the boil-off liquor. A better way of carrying out the skein boil-off is to use two bent rods which permit the entire piece of silk to be submerged at all times (see accompanying sketch). This results in a more uniform boil-off and reduces the time required.

The boil-off bath usually consists of about 1½% soap solution. The soap used should be freely soluble, so as to rinse out easily, and should be quite stable, so as not to develop rancid odors if small amounts are accidentally left in the goods. For the sake of economy, boil-off baths are used for from 2 to 10 lots, depending on the amount of silk per lot, the cleanliness of the soap bath, etc. As the alkalinity of the bath drops steadily with each lot of silk, some method of control is needed. Consistent results can be obtained by the colorimetric method of control, using Nitro Yellow as the indicator. The necessary equipment is inexpensive and may be obtained from any laboratory supply company. A bath having a pH of about 10 to 10.2 will boil-off an ordinary flat crepe in 2 to 2½ hours, or in 15 to 30 min. less time if the goods have been pre-soaked. Ordinarily caustic soda is employed to bolster the pH of the bath, as it does not have any great tendency to build up the percentage of mineral salts in the solution. This is important, as numerous experiments have indicated that as the proportion of mineral salt to soap in the boil-off bath increases, the danger of chafing also increases.

Chafing Prevented

Chafing is probably the worst defect which may be caused or contributed to by a faulty boil-off. Most frequently, perhaps, chafing can be traced to over-boiling; that is, keeping the silk in the soap bath too long. The boiled-off cloth may not show any signs of chafe, but the slightest abrasion in the dyeing operation will cause a chafe mark. Over-crowding is another cause of chafing. Chafing is also caused by over-alkalinity. Silk is considerably swelled while in the boil-off bath, and additional alkalinity causes a slight tenderness of the fibrils on the outside of the fiber, so that the slightest abrasion may result in a chafe spot. By careless handling—such as moving the silk with quick jerky movements while it is in the soap liquor or pulling the sticks out in such a way as to drag on the cloth—one may also cause chafing.

After the boil-off, all the soap must be rinsed out of the cloth. Any hardness in the water will form calcium or magnesium soaps and, consequently, blotchy and uneven dyeings, rancid odors after storing, brown soap spots after drying, and other faults. Where soft water is not available, addition of certain chemicals, such as sodium hexametaphosphate, to the rinse water will be found helpful in preventing hard-soap residues. As the metaphosphate is slightly acid in nature, a small percentage of soda ash is used to make the water just on the alkaline side (pH 7.2).

An alternative to the metaphosphate rinse is a sour with a weak, hot acetic acid, followed by a thorough wash to remove most of the acid. Complete removal of the acid is unnecessary, as a slight residue does no harm.

TO THE EDITOR:

Why Not Silk Association?

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

I am with you 100% on what you say about the Silk Association of America. I believe it would be a very smart move on the part of the industry and would form a silk rallying point for the real silk people. As they stand now they are neither fish nor fowl.

PAOLINO GERLI,
E. Gerli & Co., Inc.

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

We think your action is well founded and deserves support. We also like the Silk Association of America better than any other denomination employed up to the present.

J. CORNET,
Bianchini, Ferier.

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

The use of the name "Silk" by so many members of the National Federation of Textiles is, of course, a misnomer today. There is no doubt that by reason of the economic trend, a major portion of heretofore exclusively broad silk piece goods manufacturers have turned over their production to synthetics, and to confine the membership to exclusively silk manufacturers would probably force the abandonment of the association due to its limited membership.

I feel with many that while there is no law against a textile manufacturer producing (as it fits his convenience) a fabric from any kind of yarn, and while at some later date the fields of synthetic and pure silk manufacturers will be segregated, the promotional work for the furtherance of silk with which any trade association would naturally be identified is probably at this time best presented by the International Silk Guild, and for the present Federation of Textiles Association to attempt to advocate the cause of silk by reverting to its former status of the "Silk Association of America" would probably result in a loss of its present membership to an extent which the association would hardly find politic.

JULES ROSEN,
Jules Rosen & Co.

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

I cannot believe that the revival of the name Silk Association of America will prove of any great benefit. In my humble opinion it makes very little difference what the organization is called. The fact remains that the large silk operators of a few years ago in the dress goods field are now primarily interested in the production of articles made of synthetic yarns. It is estimated that 60% of the consumption of raw silk today lies in the hosiery end and about 20 to 25% is used for the manufacture of underwear fabrics. A few years ago, when we were still operating under the name of the Silk Association of America I addressed an inquiry to a group of men who were meeting in a joint conference with a committee of Japanese who were sent over here to study silk conditions. At that time this group was using on an average 80% of synthetic yarns, and I believe that percentage is greater today.

We are now facing a most speculative raw silk market, just the type of market that is driving us more and more to the use of other raw materials. I for one cannot see the slightest necessity for reverting back to the old title.

JAMES A. GOLDSMITH,
Hess, Goldsmith & Co., Inc.

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

The name Silk Association of America has always appealed to me. However, when changes were made, they were due to the fact that this was no longer the Silk Association of America. The organization comprised rayon industries, etc., and consequently it could not very well be called Silk Association.

If it can be done, and the name can be made to imply exactly what it means, I would like to see the silk association be the Silk Association of America.

J. WIDDER,
Widder Bros., Inc.

NEW YORK, N. Y.

Editor, TEXTILE WORLD:

With reference to the National Federation of Textiles going back to the old name of Silk Association of America, we are of the opinion that what the industry needs today is a union of all of the owners and operators of broad goods machinery, whether same be silk or rayon. The two fibers mentioned are so interchangeable that it is impossible to consider the use of one without that of the other. The name of such an association would be of secondary consideration.

ALEX F. IX,
Frank Ix & Sons, Inc.

KINGSTON, PA.

Editor, TEXTILE WORLD:

Observing your note in the October issue, it is little wonder that you had a bad attack of dizziness some two years since because of the rapid change of names to which the old Silk Association of America was subjected.

We, too, had similar attacks and like your good selves are heartily in favor of the old name, and would be very glad if you could put us in touch with the element now favoring the change to which you refer.

There surely is no real family connection between silk and other textiles, and it seems to us that if the manufacturers of all silk products had a proper realization of this and would be governed accordingly, there would be much less confusion with the public as to what is, and what is not, silk.

It is our feeling that truly silk products could and should be so outstanding as compared with other textiles as to be readily recognizable, and a pride and joy to possess.

W. B. CRANE,
Crane Bros., Inc.

●

Whither the Trade Association?

PHILADELPHIA, PA.

Editor, TEXTILE WORLD:

I congratulate you on your editorial "Whither the Trade Association?"

In a short message you have conveyed to industry the present problem confronting most trade associations. Those that are alive and aggressive will cease their bemoaning over the so-called glamourous N.R.A. days and will take out of that adventure the lesson that human nature prefers voluntary and not enforced cooperation. It is true that membership in most associations expanded with code activities but the type of member that was attracted solely because of selfish motives usually contributed nothing but criticism. When the "dream days" were past, resignations were the order of the day because the supposed sacrifices incurred with the elimination of unethical standards appeared burdensome.

Our association has amended its by-laws and adopted principles-trade practices embodying the salient points of our former code and the far thinking members of the group, and they in the vast majority, are continuing their interest and support which will result in maintaining all of the activities prior to the NRA plus the knowledge acquired during its life.

FRANK E. SLACK, President,
Association of Cotton Yarn Distributors.

●

Canadian Journey

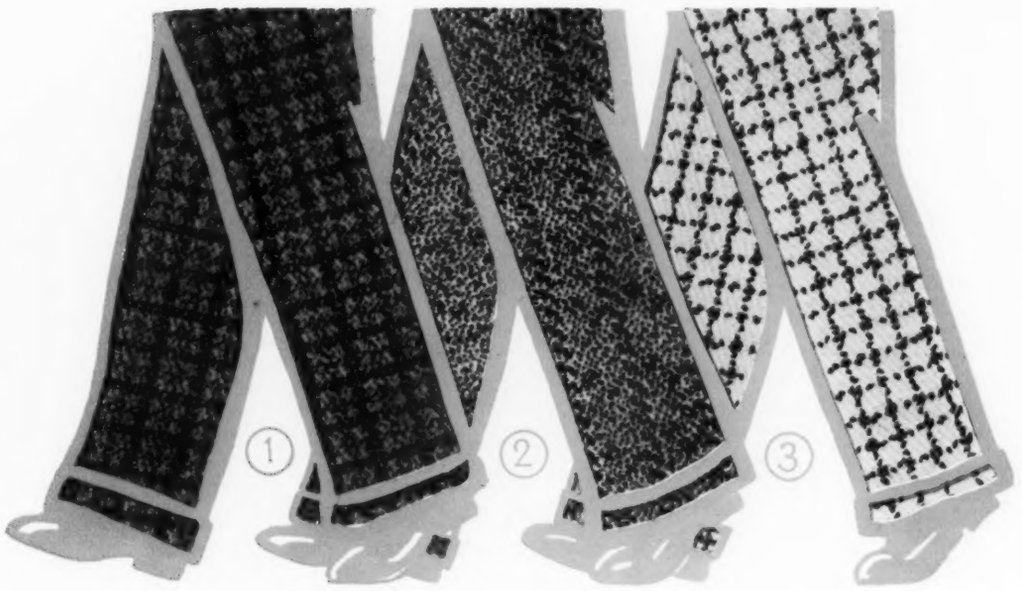
Editor, TEXTILE WORLD:

I was very interested in reading in the TEXTILE WORLD your description of your trip to Canada, and also your opinion on the textile industry especially relating to the condition of the mills, and on 90% of the mills your opinion is correct.

SUPERINTENDENT.

Men Next Summer

Will be offered galaxy of cottons and rayons as slacks and suitings

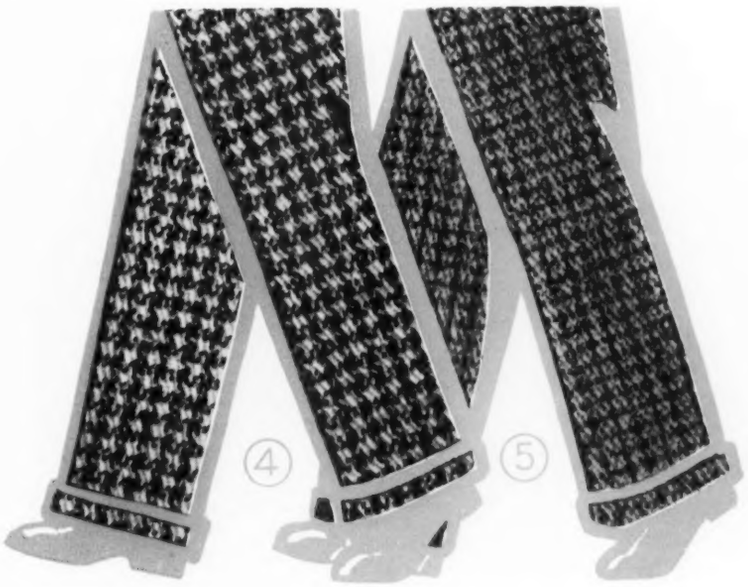


A FEW years ago all the summer wear for men made of cotton was white duck, and this was not a very large item. In the last two or three years a cooler and more comfortable material has been developed and has met with remarkable success as trousering. The new cloth is known as slacks fabric, even when, as is more and more the case, it is used in suits and beach or other sports wear.

Often it is referred to simply as "slacks"; and since this term refers also to the trousers made of the material (in fact the latter item has prior right to the term), it would seem wise for the trade to avoid confusion by calling the fabrics "slackings"—a logical parallel to "trouserings," "suitings," and "coatings." Not only do we recommend this term, but we shall put it into use in this article.

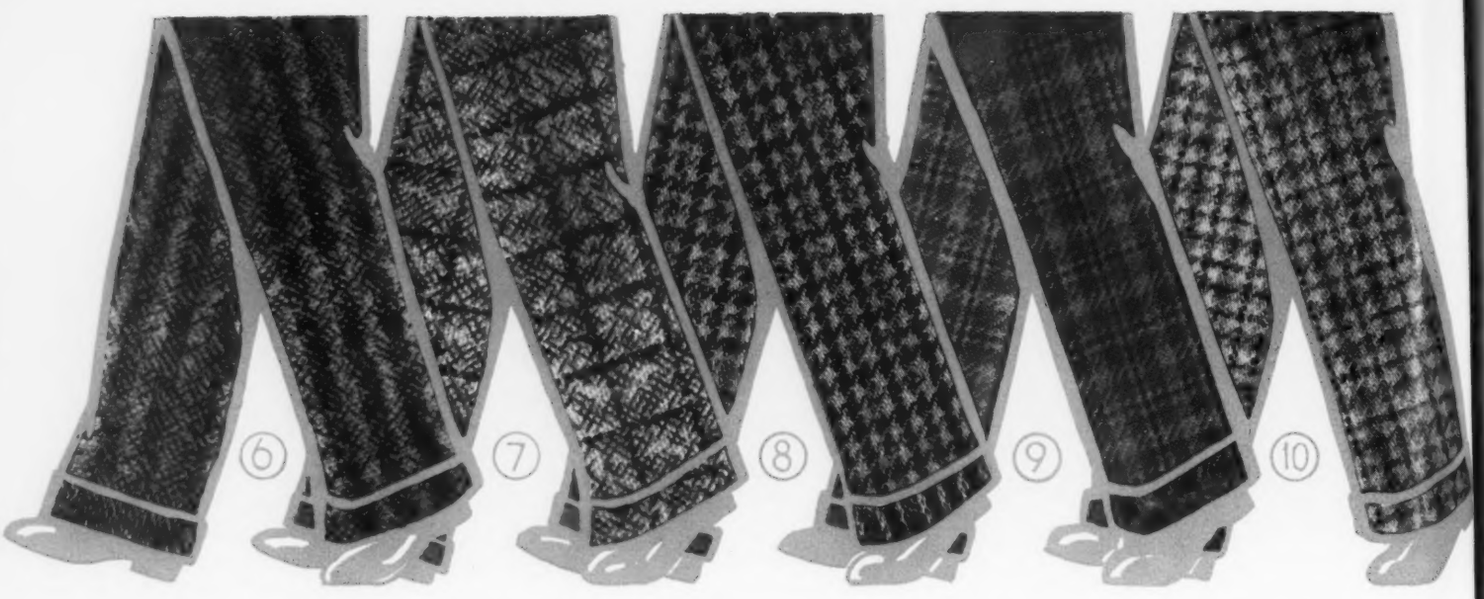
It must be admitted that, despite the healthy margin which prevailed for most firms making slackings this year, there were periods when competition forced prices down perilously close to production costs; one result of this was that certain mills cheapened their merchandise by using inferior yarns. While this practice so far is limited, it obviously presents a problem, as further cheapening of the fabrics would tend to prejudice the public against the entire slackings line.

With respect to beauty of design, weavers of slackings have little to worry about, as witness the very attractive patterns, both in print and weave, that dominate the cur-



1 to **5.** Printed patterns on fabrics of following construction: 38", 84x42, 18s warp, 12s filling. Woven on 4-harness cam loom with following weave:

Weave



rent offerings. In the fabrics used for trousers, the trend is toward bolder, even daring effects. However, indications are mills will continue cautious on that score, because of the danger of offending masculine taste. Occasionally bright reds and blues are seen, but for the most part designs are built upon pastel derivatives of tan and gray.

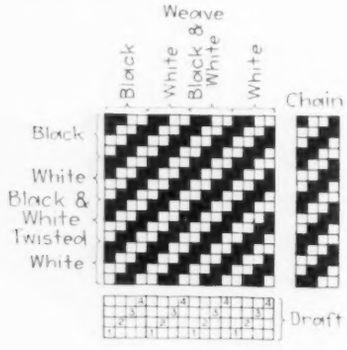
Duplication of the more intricate wool patterns is the chief style note, and this applies equally to the printed and the woven designs. Both types enjoy very spirited demand; of total sales of slackings approximately 80% are prints and 20% are woven designs. Prices of prints range from 17½c. to 25c., and prices of woven designs from 26c. to 35c. The story of the technical progress which made possible the slackings boom is matter-of-fact enough. Two years ago a crude and unstisfactory procedure, the printing of slackings now has been refined to the point where in appearance these effects bear a real resemblance to wool.

The most desirable type weave seems to be the bedford cord or piqué, both in all-gray and in colored stripes. Strong in popularity are the three-end twill and herringbone. Then comes the all-over dobby in small figures. Finally we have the plain fabric printed in suitable tweed and check effects. In addition to all the cotton slackings, there is a fabric made with spun-rayon and filament rayon mixture which is being developed in a very large way to compete with the worsted tropicals. This fabric holds a press and is very cool for summer wear. The accompanying fabrics, from a number of well-known lines, are shown to illustrate types now on the market and may suggest many variations which can be successfully originated.

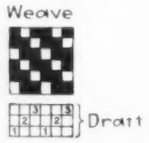
It would seem perhaps that credit for the whole slacks boom should go chiefly to the technicians and the stylists; yet the sales promotion of these new trouserings also has been vigorous and effective. Education of the consumer to the fact that practically all cotton slacks now are processed against shrinkage, and emphasis on the idea that the low price makes slacks an ideal garment for rough sports or even workaday use—these are the chief promotional points. Distribution of brochures in which swatches are artistically displayed help further to stimulate demand.

With slackings securely established as trouserings and

8. 38", 64x60, 2/28s color and 14s gray in warp, same in filling. Woven on 4x1-box loom with following weave and color arrangement:



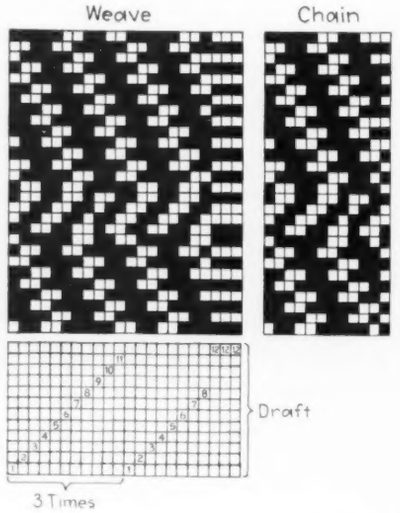
6 and **7.** Printed patterns on fabrics of following construction: 38", 64x36, 15s warp, 6½s filling. Woven on 3-harness cam loom with following weave:

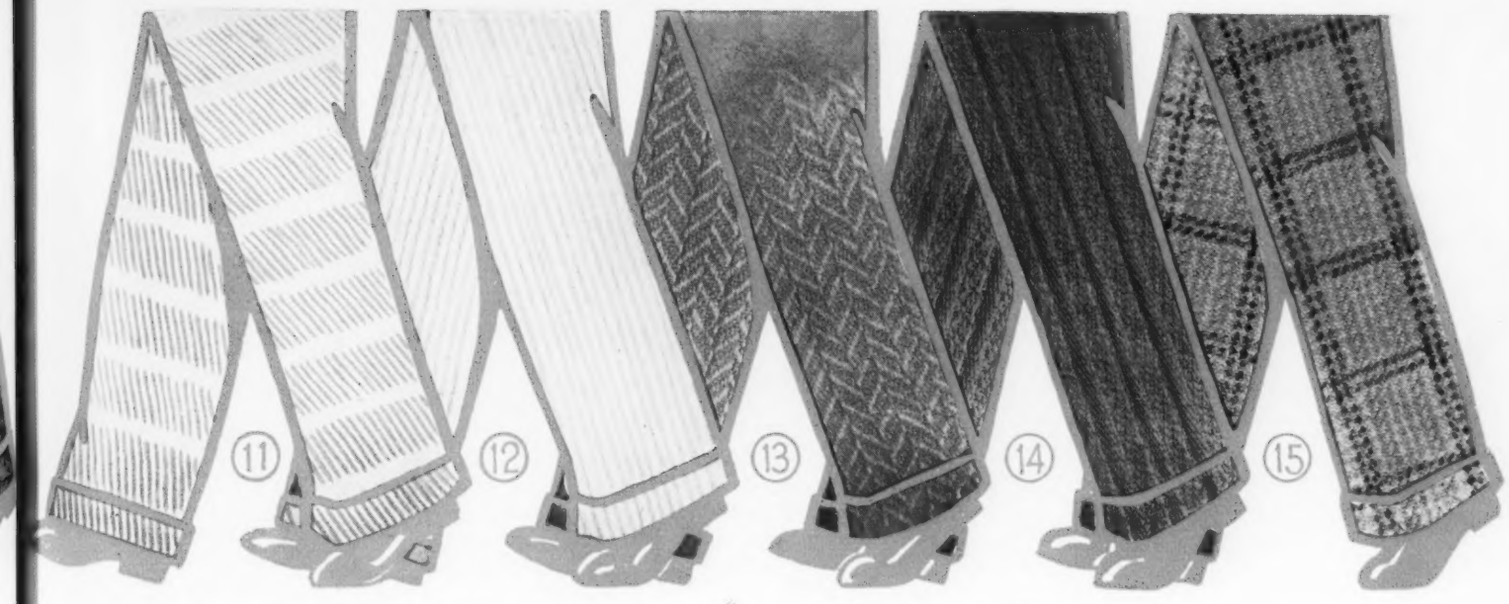


9. Same as No. 8, but with the following color arrangement: Warp, 2 brown 2-ply, 2 white, 6 tan, 6 white, 6 tan, 2 white. Filling, same as warp.

10. Same as No. 8, but with following color arrangement: Warp, 2 brown and white twisted, 4 white, 2 tan, 2 brown and white twisted, 2 tan, 4 white. Filling, same as warp.

11. 38", 104x64, 18s warp, 22s filling, all gray. Weave, which repeats on 44 ends, as follows:





their market position for 1936 fairly well assured, interest now centers on the less definite outlook for suitings. Trade opinion has not yet crystallized on that score. Both woven and printed designs are offered in the new suitings lines; however, prospects for this market seem at present to lie more in the woven designs.

The susceptibility to creasing of cotton suitings remains a big deterrent to market expansion; more so, of course, than when the slackings are used as trouserings alone. Weavers have been experimenting with methods to give crease-resistance with no material success so far. Some contend that up to the present crease-resistance has been accomplished only at the sacrifice of tailorability. Others feel that the twill weave, commonly used in slackings, is not the most responsive to the anti-crease treatment. In the South all-cotton suitings have achieved big volume despite the tendency to crease. In the North, however, the consumer insists on crease-resistance, and suitings sales gain in proportion as the creasability is reduced. Usually such reduction is effected by adding wool yarn to the cotton.

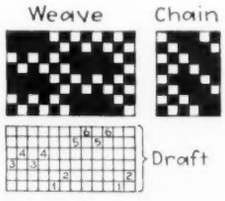
Suitings remain an infant of the slackings market; and even assuming a significant rise in volume during 1936, the sale for suitings will still hold far behind the sale for trouserings. Current estimates place the sales ratio as follows: 90% for trouserings against 10% for suitings. With respect to price, the most desirable grades for suitings are still rather too high to permit big volume business.

A very healthy phase of the slackings boom is the growing list of auxiliary markets. The mess-jacket vogue which shot up like a rocket in 1935 promises to answer for a part of the output in 1936; other outlets are riding-breeches, bathing-trunks, boys' and women's shorts. And we must not forget such established markets as wash dresses, etc.

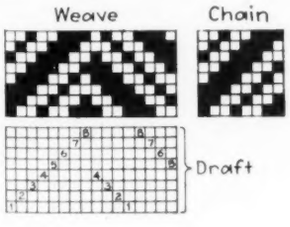
One main question of 1936 is: Shall mills continue to limit slackings to one broad range which compromises between flashiness and conservatism, thus selling moderately to part of both markets, or shall they establish two definitely separate lines and exploit each market to its maximum? Numerous observers feel the latter method is more efficient, and it is likely the coming season may see a turn in this direction.

(Continued on next page)

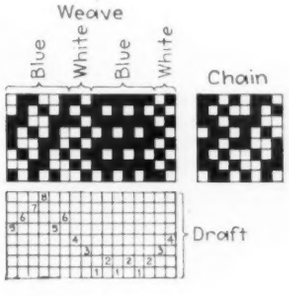
12. Same as No. 11, but with following weave:



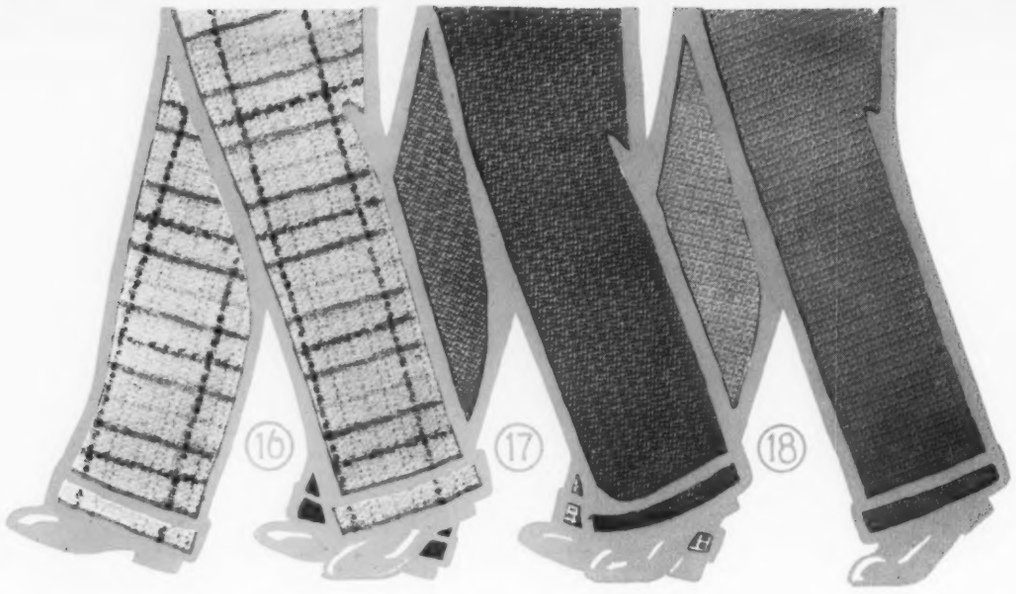
13. 38", 60x52, 2/26s gray warp, 14s light-blue filling. Weave:



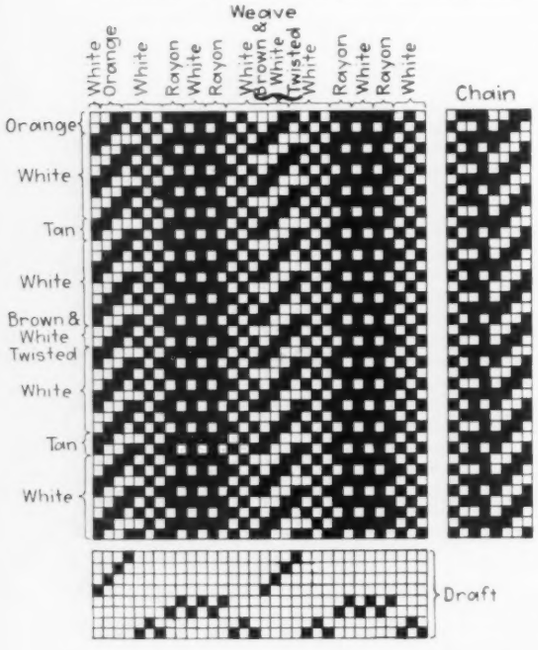
14. 38", 72x48, 14s light blue and gray warp, 11s gray filling. Weave and warp pattern:



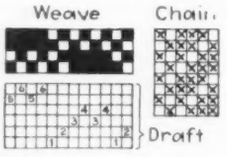
15. 38", 64x60. Both warp and filling contain 300-den. rayon, 2/30s color and gray, and 15s single. Weave same as No. 8 (that is, the 2/2 twill) with following color arrangement: Warp, 2 black and white twisted, 2 white, 2 black and white twisted, 4 white, 2 gray, 2 rayon, 2 gray, 2 white, 2 gray, 2 white, 2 gray, 2 white, 2 gray, 2 rayon, 2 gray, 4 white. Filling, same arrangement.



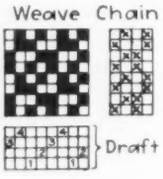
16. Similar construction to No. 15, with following weave and color arrangement:



17. A rayon and spun-rayon mixture. 40", 76x60. Same yarn in warp and filling, consisting of 1 end of 200-den. rayon twisted with 1 end of 24s spun rayon. Weave:

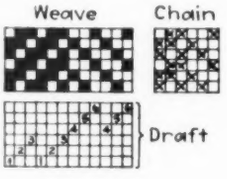


18. Same as No. 17, but with following weave:

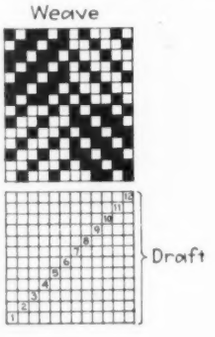


19. Same as No. 17, but woven plain on a cam loom with 4 harnesses.

20. Same as No. 17, but with following weave:



21. Same as No. 17, but with following weave: (Chain same as weave.)



ADVERTISING PAGES REMOVED

TEXTILE WORLD ANALYST

Improvement wide spread with textiles again in lead

Activity Continues Above Year Ago: Our estimate in last month's issue that textile mill activity during the first three-quarters of 1935 exceeded that of the corresponding period of 1934 by approximately 15% is substantiated by the statistics now available. The differential was 16% in favor of this year. . . . Our preliminary estimate for October shows somewhat (possibly 10%) increased activity over the same month last year, despite the fact that the latter was stimulated by the post-strike activity. Consequently it appears that the total for the year as a whole continues to run well above 1934.

THE chorus of optimism is rapidly becoming deafening. "Rarely in the last five years have so many favorable factors come to light in a single week," announced *Business Week* in its issue of Nov. 2. "There is less reason to be alarmed about the future of business than at any time since 1926," reports our Washington office, citing this as a view held in "important Administration quarters." These are just samples; we could quote scores of other statements in similar vein.

Most comments bear out the point emphasized in these columns last month: namely, that the inclusion of the capital goods industry in the current improvement is a most hopeful sign. "The country is in its fourth attempt to snap out of the depression," says our Washington correspondent. "Improvement this autumn has not reached the level attained in July, 1933, but the present situation differs from previous upswings in two respects. The improvement extends widely into durable goods, where the principal unemployment exists. This upswing has been gradual over a period of ten months. Other rises were rapid and did not affect durable goods importantly."

Similarly, Dun & Bradstreet reported for one period that "the most sustained elements of strength for progress were provided by the durable goods industries, which accounted for the largest employment increase."

That factor is exceedingly important. Textiles, again on the move, are finding support from industries which were dormant in previous consumer-goods upswings.

And textiles *are* on the move. This fact is now recognized in the daily press. For example, an article in the New York *Times* reports: "Leading the business recovery parade by a substantial margin, practically all branches of the textile industry are surging forward to new high records for the depression period and, in some instances, to all-time peaks, a survey has disclosed."

That is not exaggeration. Cotton mill activity has continued at the higher rate reached by the spectacular upswing between August and October. Despite normal between-season slackening in new orders, woolen and worsted mills have business booked well ahead and are operating at a high rate. Business in silk and rayon woven goods registered improvement in the latter part of October. Rayon yarn sales have continued at an abnormal rate.

There is more than just volume however. The price outlook—generally speaking—continues favorable and reflects development of saner policies on the part of the mills. Manufacturing margins on carded cotton fabrics (Table I) declined slightly during October but still maintain most of the improvement made in August and September. Margins on yarns (Table II) increased during October, the average for that month being the highest since April, 1934.

Rising prices all along the line during the month of October are shown in TEXTILE WORLD's price index numbers. Raw silk, as has been usual of late, exhibited the most fireworks and even a softening of prices at the end of the month did not prevent the index from registering a substantial gain. Since September, 1934, the silk index has gained 21 points, and each index point represents a good gain when the index number is in the lower ranges. The changes in the other indices represent in a number of cases, such as wool tops, a leveling-up process whereby manufactured items assume a more logical relation to raw material costs.

•

TABLE I. CARDED FABRIC MARGIN

Date	Margin in cents	Date	Margin in cents
August, 1933...	21.4	March, 1935....	15.9
October, 1933...	19.1	April, 1935.....	16.1
January, 1934...	18.4	May, 1935.....	16.0
April, 1934.....	17.6	June, 1935.....	16.5
July, 1934.....	15.5	July, 1935.....	15.2
August, 1934....	16.6	August, 1935....	17.1
September, 1934.	18.6	September, 1935	17.9
October, 1934...	17.4	October, 1935...	17.7
November, 1934.	15.8	Oct. 9.....	18.0
December, 1934.	16.2	Oct. 16.....	17.7
January, 1935...	16.2	Oct. 23.....	17.4
February, 1935..	16.0	Oct. 30.....	17.5

TABLE II. CARDED YARN MARGIN

Date	Margin in cents	Date	Margin in cents
August, 1933.....	23.5	March, 1935....	14.4
October, 1933...	20.0	April, 1935.....	14.1
January, 1934...	18.3	May, 1935.....	13.8
April, 1934.....	15.9	June, 1935.....	14.5
July, 1934.....	14.7	July, 1935.....	14.3
August, 1934....	15.3	August, 1935....	15.3
September, 1934.	15.6	September, 1935	15.4
October, 1934...	14.6	October, 1935...	15.8
November, 1934.	13.5	Oct. 9.....	15.3
December, 1934.	13.5	Oct. 16.....	15.8
January, 1935...	13.5	Oct 23.....	15.7
February, 1935..	13.9	Oct. 30.....	16.2

▼ ▼ ▼

Textile World's Price Index Numbers

Date	Cotton Index Numbers				Wool Index Numbers				Silk Index
	Cotton	Yarns	Gray	Colored	Wool	Tops	Yarns	Cloth	Raw Silk
July 31, 1914..	100	100	100	100	100	100	100	100	100
1932, average..	51	76	73	100	78	97	115	128	34
1933, " ..	84	116	110	113	116	135	139	181	35
1934, " ..	132	142	139	141	138	159	167	206	28
Jan. 1935.....	135	138	137	140	124	132	154	190	32
Feb. 1935.....	134	138	136	140	116	124	152	190	31
Mar. 1935.....	127	136	134	139	108	118	148	190	29
Apr. 1935.....	127	135	131	138	105	114	148	190	30
May 1935.....	132	137	133	139	108	116	150	200	30
June 1935.....	128	138	133	139	123	135	155	200	30
July 1935.....	131	140	130	139	123	135	155	200	33
Aug. 1935.....	125	139	131	139	123	135	155	200	37
Sept. 1935.....	120	135	135	139	127	137	156	200	41
Oct. 1935.....	123	135	135	140	131	140	162	208	45

Note: All cotton indices since Aug. 1, 1933, include processing tax.

Overseers'

THIS DEPARTMENT

offers practical material for the use of overseers in meeting the daily problems of their jobs. It includes valuable suggestions on industrial relations in the handling of which both the overseer and the superintendent are involved. Under the heading "Kinks" appear short cuts in mill technique which have already solved problems in at least one mill and may help in yours. The central panel features material from a mill superintendent's diary which offers practical hints on various matters taken from actual mill experience. We solicit your contribution to this department—see panel on opposite page for details.

▼

Employment Departments and Labor Turnover

Editor, Overseers' Corner:

Reading the article on labor turnover in the October issue leads me to relate some of the systems I have run up against.

One mill has what it terms a "master payroll file," in which every job in the mill is listed on a separate card. Each new employee's name is added just below the name of his predecessor. Upon termination of his employment, the date of his going and the reason are recorded on this card. The theory is that a check can be kept on labor turnover for each job in the mill, and adjustments in work load made when the turnover becomes too high.

The employment manager of another mill finds it worth while to keep a dollar camera in his office and to take snapshots of each new employee. The photograph is pasted in a corner of the permanent record card. One Georgia mill finds it advantageous to give the operative an occasional week's vacation without his being penalized for absence. This system is said to have an extraordinarily stabilizing influence on help. Other plants have developed merit systems whereby an ambitious worker may prepare himself for a better position. Several plants offer cash rewards for suggestions as to how production can be increased, waste decreased, certain jobs made safer, etc. There are also innumerable ways of increasing an employee's interest in his mill and his village.

G. W. A.

Comments on the Super's Notes

Editor, Overseers' Corner:

In order to eliminate several items that tend to irritate the super, he should make inspection trips through the plant. These visits should not be executed periodically, because the overseer might have the tendency to loosen up between visits if he knew when they were coming. During the tour, the superintendent should make notes of the things that are not being taken care of suitably, and, after his inspection, he should call the overseer into his office and discuss these points.

In my opinion it is very unwise for the super to allow a lot of irritations to get under his skin, and then dispose of them when he is not feeling good; because he may have a sudden outburst of anger, which might cause a lot of friction.

The overseer should stay in his own department and let his fellow man pull his own "little red wagon," but there are times when it is essential that he visit another department to straighten things out. When the overseers work with each other, the plant gets better efficiency.

Due to the fact that the super has enough duties, the overseers should be capable of okaying all mechanical jobs. When an overseer cannot fix a broken part in his own department, he should write an order to the machine shop, explaining just how the repair should be made. A note should also be made of the time the part leaves his department and the time that it is returned. The repaired part should be checked in and okayed by the overseer before it is placed on the machine.

Fire is a menace in any plant and it should be treated accordingly. When a new operator is placed on the job, he should be taught how to prevent fires as well as the location of the fire extinguishers and hose. Fire drills should be held to acquaint the workers with the correct procedure and every plant should organize a fire group to take care of the larger fires.

JAMES A. HENRY,
Overseer of Night Operations,
Dalla-Noval Yarn Mills.

From a Superintendent's Diary—

BETTERING EMPLOYER-

(Based on actual mill notes)

ONE thing that has become increasingly clear to me of late is that if we are to go ahead and consolidate the business gains that we have made, and if we are to have a pleasant future, every effort must be made to strengthen the teamwork of management and workers. Getting along well with your workers is a matter of business as well as humanity, but for some reason, the problem of employer-employee relations has been treated like a step-child by most managements. Even from a cold-blooded standpoint, such an attitude is not justified. I know lots of mills that have a purchasing department that goes over everything with a fine-tooth comb; and yet the employment of workers—a far more important item—is treated in a hit-or-miss fashion.

The thing that I have been trying to put over in this plant is to get the overseers to realize that *they* are the most important factors in securing teamwork. They are right on the spot and it is really up to them whether everything runs smoothly or not. This plant isn't large enough to have a full-time personnel officer—any more than it is large enough to have a full-time purchasing agent—but

A Suggestion About Suggestions

Editor, Overseers' Corner:

Personal experiences confirm Mr. Williams' remarks in the July issue on "Carrying Out Suggestions." I should like to offer him a suggestion, which if he carries out will, I am sure, bring him satisfaction and ease of mind in this particular connection as well as in every-day affairs.

Let his slogan become, as mine has become by continued and successful practice, "Jot It Down."

I carry around, in a convenient vest pocket, five or six plain cards of card index size. As suggestions are offered, a simplified note to this effect in two or three words is entered on one of these cards. Throughout the day or week, this card will become filled with suggestions which have been offered. Another card will be filled with items which one must take care of personally. Another card will be filled with new ideas and business kinks which come to mind in odd moments during the day and evening from random reading of trade publications, newspapers, books, etc.

The "Jot It Down" system does not re-

Corner

CONTRIBUTIONS

to the "Overseers' Corner" will be paid for without regard to length. We will be glad to use letters discussing the super's diary or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute kinks will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. If these pages interest you—contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York, N. Y.

EMPLOYEE RELATIONS

By John Williams

I have arranged so that my assistant, who has been handling personnel matters, will have more time to give to the subject.

I'm not talking paternalism, but we should all realize that trained workers are our most valuable asset and that we should treat them as such. I have heard an overseer say that he was glad that he was an overseer of that particular department as he couldn't be happy anywhere else, but I have seen that same overseer assign untrained help to this or that job without the least attempt to find out what the worker wanted to do or had an aptitude for. Another thing that has not been gone into thoroughly is the possibility of moving a good worker into another department temporarily when his own department happens to be slack. I could mention a number of other angles that are worth study, but at present I'm mainly trying to get the overseers to see the whole problem in the right light. If we don't take an interest in the worker and help him to get ahead, the worker isn't going to take an interest in us; and he will be a good prospect for outside leaders who tell him they have his interest at heart and make lots of promises.

place the memory with a card system, but it does serve as a most faithful assistant and stimulant to a mind which in these complex days becomes rather quickly diverted from one train of thought to another of an entirely different character.

These cards are checked over quickly the very first thing each morning, again just before lunch, and just before the close of the day's business. Items completed have a line drawn through them. When a card is getting cluttered up and all but two or three items have been completed, a fresh card is started and the remaining old items head off the new card. H. D. G.

KINKS

Waste on Fabric Ends

A source of waste in many fabric mills, and one that is often ignored entirely, is the lack of attention on the part of the employee intrusted with cutting off the ends of the pieces after finishing. The majority of mills measure by eighths of a yard. Presuming that the employee wastes one-eighth of a yard on each piece of goods, and that the mill finishes 100 pieces a day of a fabric selling for $1 per yard, the loss will amount to $3,250 per year. This is a sizable sum and it will be much higher if the mill is running on higher-priced fabrics. It will pay any mill agent or manager to check up on his waste ends of cloth at regular intervals. "JUNIOR."

Preventing Slack Twist On Old-Type Frames

All spinning belts have a tendency to become a little slack until the machine reaches its full speed, and slack twist occurs on old-type spinning frames having the first idler between the third and fourth spindles.

Any machines having the idlers spaced in this manner should have extra idler cups installed between the first and second spindles at both the back and the front of the frame. This will keep the spindles from springing against the pipes whenever the belt becomes slack. When installing these extra idlers, it is a good policy to respace all the idlers so there is an idler between every fourth spindle, or 14 idler cups to a rail of 50 spindles.

PETER C. WAYNER.

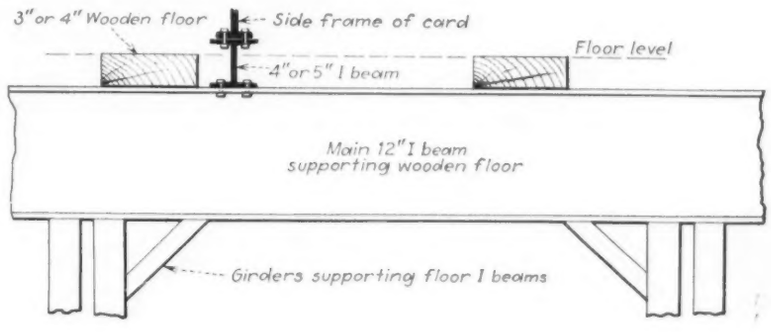
Preventing Cards From Rocking

In most of the older textile mills, the card room has a wooden floor, generally supported by I-beams. With such a type of construction, the cards often "rock," as they are supported by only two main beams and there is some overhang at each end.

Handling asbestos, a fiber that is harsh on carding wire, we found it necessary, due to the close adjustment of the rolls and the "rocking," to grind the rolls far too frequently for profitable operation.

Having built cards and garnetts, I surmised that the main card sides needed better support than the wooden floor gave. I finally secured a couple of 5-in. I-beams, cut away the floor under the sides of the card, and bolted the 5-in. beams directly to the main, floor-supporting beams. This particular card was at the point where it needed grinding, but we needed its production for a week on a rush order so we let it run. Even without grinding the quality of work produced was much improved. Additional cards were given these subfoundations each weekend until the whole room was fixed up. The grinding of card rolls dropped to less than one-third of what it formerly had been, and a rush order for a production run didn't have to be spotted on some particular card that had just been equipped with newly ground rolls.

E. E. G.


3" or 4" Wooden floor
Side frame of card
Floor level
4" or 5" I beam
Main 12" I beam supporting wooden floor
Girders supporting floor I beams

QUESTIONS AND ANSWERS

Cotton Wraps Spinning Roll

Technical Editor:
I am running a hosiery spinning room and I find some colors have a tendency to wrap around the leather roll when the end comes down. I should like to have something to put on the roll, while the frame is running, to stop the cotton from wrapping around it. I could use acetic acid, but am afraid this will rust the steel roll. Please advise me what I can use to correct this trouble and not shade the colors. (8229)

The following ideas have been applied with more or less success to overcoming this difficulty: adding a hygroscopic agent to the dyebath, spraying oil on the cotton at the picker, closing up the front and second roll and increasing the space between the second and back rolls, using larger top rolls, employing glazed or varnished leather cots, increasing the relative humidity of the room, starting up humidifiers more in advance of the starting of the production operations in the morning, and—in the case of cards and drawing frames—applying static eliminators to the machines.

Powder Puff Industry

Technical Editor:
We shall appreciate receiving what information you have on the powder puff industry. We are particularly interested in the following information: (1) production figures of the industry; (2) historical background; (3) of what materials are powder puffs made, and (4) consumption figures. (8197)

Face powder was in use for many years before powder puffs were thought of. For applying it, a small piece of chamois was employed. Today, powder puffs are used in every country where face powder is employed. Powder puffs were first imported into this country about the year 1912, being introduced from Germany. When the World War broke out, imports of powder puffs were stopped. It required only a few hundred dollars to start a powder puff business, and a great many companies were formed in the United States for producing them. It was the practice of these companies to buy a few pieces of cotton velour plush from which the puffs were made. At the start, a very low grade of cloth was used, and the making up of the puffs was poorly done. There are now about 24 manufacturers of powder puffs in this country. The grade of fabric employed in the manufacturing of powder puffs was gradually improved over a period of years. A few years ago some of the powder puff manufacturers started to make their own cloths. In this way they were able to produce a special type of fabric which is particularly suitable for the manufacture of high-grade powder puffs.

At the present time powder puffs are made up in various sizes. The size which is sold in the greatest volume is 3 in. in diameter. A linear yard of 56-in. fabric contains 2,016 sq.in. As it takes a piece of cloth which is 4 in. square to make one side of a puff, it requires 16 sq.in. for one side, or 32 sq.in. for the two sides of the puff. From 1 yd. of cloth it is possible to make 63 puffs, or, roughly, 5 doz. first-quality puffs. The production of a modern

double-shuttle plush loom on high-grade cotton velour plush averages 300 yd. for a 40-hour week. According to a statement made by F. W. Woolworth & Co., in 1929. 600,000 yd. of the finest quality velour was required to make the powder puffs sold by this concern. We estimate that 300,000 yd. was required for the puffs sold by S. S. Kresge Co., 100,000 yd. for those sold by W. T. Grant Co., and 1,000,000 yd. for the powder puffs sold by the powder manufacturers and other stores. This makes a total of 2,000,000 yd. of cloth.

To weave that number of yards about 150 looms are needed. Most of the powder puff cloth is manufactured by companies specializing in that line.

Specially spun cotton yarns are most commonly employed in the manufacture of powder puff fabrics. Worsted fabrics and swan's-down are also employed. The most expensive puff is manufactured from lamb's wool; that is, the fleece taken from the animal when it is about six months old. This yarn is spun on the woolen system. The production of a loom on this type of fabric is much lower than on the others.

From 2,000,000 yd. of cloth, it is possible to make somewhat over 120,000,000 powder puffs. According to an estimate made by Business Week, in 1933 the retail value of powder puffs sold in this country was about $4,000,000.

Pedaline Braid

Technical Editor:
I have recently seen a statement to the effect that the phenomenal growth in the imports from Japan of pedaline braid since 1932 has resulted in the closing thus far of 36 American mills employing 7,500 hands and is playing havoc with the few remaining braid mills in the country. What is pedaline braid, how important a commodity is it, and how much truth is there in the above statement? (8257)

Pedaline is a hemp yarn wrapped with cellulose film and, when used in the manufacture of braid, lends its name to the completed product. This braid is used principally in the millinery trade. One and a half to two years ago the vogue for millinery constructed of pedaline was at its height, and at that time enormous quantities of braid were reputed to be imported from Japan, and at a price far below the manufacturing cost alone in this country.

The statement concerning the number of concerns forced to close on account of this importation, and the number of hands reputed to have been forced out of employment, is greatly overdrawn. The total number of braiders in the United States, according to the 1929 census, was 76,484. If we estimate that each operative may care for 20 machines (a conservative estimate), the total number of operatives in the entire braid industry would be but 3,824. It must be obvious that the figures given in the question are erroneous.

We have submitted your inquiry to the Solid Braided Cord Mfrs. Assn., Atlanta, Ga., and have received the following answer:

"Replying to your letter in relation to the 'phenomenal growth of imports from Japan,' unless solid braided cord is erroneously included in some improper import classification, the importations have not reached the proportions indicated. In all events, however, they should be restricted for the benefit of American workers and mills."

Vertical Streaks in Hose

Technical Editor:
We are inclosing a chiffon stocking in which you will note some streaks running vertically. These run just at the ankle of the stocking from the exact point where the plating starts to the instep or topping line. At a casual glance, these streaks are not apparent; but when the stocking is put on an artificial leg form, the streaks can be seen very clearly. In our opinion the stocking is not a good first, but could be quite easily classed as a sub-standard.

We have had a lot of trouble with these streaks in our stockings just from the point of reinforcement at the heel tab down to the topping line. Our superintendent offers the explanation that this is caused as result of the necessity of slowing up the machine when the splicing commences. However, we do not understand why the streaks should be up and down. He states that he thinks the silk dries out while the machine is stopped just before the splicing commences, and it is, of course, run much slower during the splicing process. We are not satisfied that this is the correct explanation.

A former superintendent we had stated that these were rocker marks, but we never had any proof that this was the correct explanation.

We think, if the silk were at fault, these heavy lines would run around the ankle, and not up and down. It almost seems to us that in some way the needles or sinkers are responsible for these marks. We shall appreciate your comments. (8236)

We believe your superintendent is on the right track toward locating and correcting this trouble, but feel that he has the wrong theory. The trouble is most magnified by the slowing down of the machine during the splicing or plating process. The slowing down gives less snap to the sinker and divider action. This results in a little tighter knitting and magnifies existing trouble, which would be noticed from one end of the leg to the other if the entire pattern were knit at the same speed.

To overcome the difficulty, it will be necessary to see that all known troubles for producing needle and sinker streaks are removed, such as worn sinkers, striking jacks, bent sinkers, crooked needles, etc. It is our opinion that the verge plates will very likely be found in a badly worn condition. These should be properly refinished and the slur-cock properly adjusted. We believe that these two suggestions will go a long way toward correcting the trouble.

It is, of course, advisable to operate the machine at the highest possible satisfactory speed during the splicing operation. Where machines are worn and slur-cocks not

QUESTIONS AND ANSWERS

closely adjusted, knitting will be tighter when the machine is slowed down, and this can and will cause a lot of trouble by producing a poor fabric union between footer and legger, to say nothing of the additional troubles which will be brought out, as has been demonstrated by your problem.

Rayon Warps Break on Loom

Technical Editor:
We are trying to run rayon on Draper looms, but cannot get good results. The warp breaks between the beam and whip roller. We should like to get your views on how to set the whip roller and time the head to get best results. (8264)

If the rayon is breaking between the loom beam and the whip roller, it is an evidence of either poor rayon or poor slashing. Any difference in timing of the dobby or cams or setting of the whip roller would be of little use. If the rayon is breaking between the whip roller and breast beam, the cause can be found in either poor rayon, poor slashing, or overcrowding of ends in the heddles or reed.

Analyzing Fiber Mixes

Technical Editor:
Will you be kind enough to tell me which is the best way to find the shades in mixes—wool, merino, or rayon and mohair on the woolen system? (8258)

Unknown mixes of colors in wool, merino, or rayon and mohair, stock or yarn, are analyzed by careful visual inspection and dissection with burling irons under a magnifying glass. The colors are isolated by viewing stock in different lights, such as overcast, reflected, and transmitted.

Patience, care, and experience are necessary in such an analysis. The percentage of each color in the mix is determined by weighing the original sample carefully on grain scales and weighing each color group when collected. When sufficient fibers of like color are grouped, the dyer can duplicate the shade. After the dyer has duplicated the colors, a blend is made up on hand cards, using the percentages of each stock determined by the analysis. Any variation from the unknown sample can be corrected only by trial and error through adding and removing colors. Several trials may be necessay to duplicate the mix desired.

Defective Hosiery

Technical Editor:
Please examine the inclosed stocking and advise us whether or not anything can be done by the dyer in order to improve it in any manner. (8242)

Examination of this stocking indicates that the trouble is due primarily to the use of dry silk in the knitting department. While the dyer is not responsible for the condition of the hosiery, he can improve the appearance by applying a finish which will give a heavier body and somewhat overcome the sleaziness. The following treatment is suggested. After the goods have been dyed, and rinsed twice, let out about one-half of the rinse water, add 3% of a good delustrant and 3% of a gum finish, and run the goods for 8 to 10 min. Next add 5 to 8% of a spalsh-proof compound, run 15 min., add 1 to 2% of a scrooping agent, and run 5 to 10 min. In the case of goods which are already dyed, merely wet out thoroughly, and then treat as described above. While this treatment will improve the appearance of the stockings, the problem should be attacked from the manufacturing end.

Cleaning Dye Tubs

Technical Editor:
Kindly advise me as to the best method of cleaning wooden dye tubs to minimize the effect of a color on a later batch of wool. (8244)

The most practical way of rendering any dye that may be left in the wood of a kettle incapable of affecting a later lot dyed in the same kettle is either to destroy it or to render it insoluble. Most wool dyers are in the habit of boiling out a kettle with bichromate and sulphuric acid, which either makes the loose color insoluble or destroys it entirely. Others prefer to use basic zinc hydrosulphite and acetic acid, which is a more expensive way than the former. Boiling out a kettle with soda will remove only the surface color, and may even make the absorbed color more soluble and more likely to bleed out than before the soda was used. After a hot solution of chromic acid has acted on any soluble dye, the latter will either be decolorized or else converted into an insoluble state in which it can do no further harm.

Draperies Shrink

Technical Editor:
I shall appreciate any information you can give me with reference to the difficulties we are experiencing in the shrinkage of our drapery fabrics. After our drapery fabrics have been hanging in various homes for a period of 3 to 6 months, a full-length curtain of 90 in. shrinks sometimes as much as 6 in. The bulk of the complaints are on fabrics using heavy cotton yarn in the filling varying in size up to 1¼s count. The warp is 300-denier yarn dyed. In sizing the warps, we endeavor at all times to take as little stretch as possible. This stretch is between 4½ to 6%. (8240)

Presumably the rayon-warp, cotton-filled drapery fabric in question is woven with the regular lock weave, such as used in the weaving of marquisettes. Also the only sizing put into the fabric to hold the stretch or prevent any shrinkage due to the type of the weave, was that used in the sizing of the rayon warp. This sizing is broken up during the weaving operation by the loom harness and the reed to such an extent that there remains but a small amount to act as a binding material.

When draperies made from these materials are hung in a room over a period of time, they are subjected to changing humidity. The dampening and drying action causes the shrinkage; that is, the stretch that the sizing at first held in place is taken up. The weave has a natural take-up of its own as well.

To overcome the difficulty, we suggest that you first try to reduce the elongation of the rayon warp in the sizing operation to as near zero as possible. Second you should endeavor to finish the woven fabric with some type of sizing compound which will hold the stretch and be more permanent. Third, if possible, give the fabric a pre-shrinking treatment before it is made up into draperies.

Stitch Distortion in Welt

Technical Editor:
I am inclosing with this letter two stockings which have a very bad distortion of the stitch right along the picot in the welt. What is your opinion as to the cause of this distortion? (8249)

The trouble shown in the sample submitted is easily identified as sleazy knitting. Sleaziness is noticeable to a very marked degree throughout the entire welt and shadow welt of the sample submitted. It is more pronounced near the picot or top of the stocking, due to the fact that this part of the stocking is most difficult to finish. In other words, the edge of the hem has to hang in more natural suspension than the fabric farther down the hem, where friction with the form is brought more into play and places the texture under some tension while being dried.

The appearance of the stocking can be appreciably improved by boarding on a wider form, thus permitting the fabric to be finished under more stretch or tension. Or the fabric can be tightened to make it fit the form more neatly. However, we are inclined to the opinion that the hem as now being knit is none too wide, and we believe that a wider form will prove a more satisfactory solution.

We are also of the opinion that the silk employed in making the welt is a little too light, and we are quite sure that if the welt were made of a silk with one or two more threads, an improved condition would be noted.

Summarizing our findings, we believe that the welt is too loosely knit to make a satisfactory finish on the width of form employed for finishing, that the stitch construction in the welt is too loose for the size of silk employed in making the welt, and that the distorted stitches can be greatly improved by knitting a little tighter stitch with the same yarn now employed or by the introduction of heavier yarn with the same stitch construction. Apart from these suggestions, it will be the duty of the knitter to follow up his silk for causes of sleazy knitting, such as dryness, wetness, uneven twist, and the other well-known causes for sleazy knitting which have been discussed from time to time in TEXTILE WORLD.

THE PERSONAL PAGE

Luther H. Hodges

Cason J. Callaway

Fuller E. Callaway, Jr.

G. Edward Buxton

Jas. P. Margeson, Jr.

Luther H. Hodges has been appointed general manager of all the mills of the Carolina Cotton & Woolen Mills Co., the Marshall Field group, including the plants in Spray, Draper and Leaksville, N. C., and those in Fieldale and Roanoke, Va. **W. D. Carter,** who has been co-manager of these mills with Mr. Hodges, has been transferred to New York, where he will have charge of direct selling from the silk and rayon mills, as well as general supervision of the New York office of the Carolina Cotton & Woolen Mills Co. and of Woven Fabrics, Inc., both Marshall Field subsidiaries.

Fuller E. Callaway, Jr., has been appointed president of Callaway Mills, succeeding his brother, **Cason J. Callaway,** now chairman of the board. **F. E. Callaway, Jr.,** retains his post as treasurer. Other officers include: **Arthur B. Edge, Jr.,** secretary; **J. K. Boatright,** assistant treasurer; and the following vice-presidents: **S. Y. Austin, Ely Callaway, C. W. Coleman, Hatton Lovejoy, James Newsom, B. N. Ragsdale, H. G. Smith, M. M. Trotter,** and **W. H. Turner, Jr.** Assistant vice-presidents are **P. N. Collier** and **C. M. Geer.**

S. Bruce Smart has been elected president of B. B. & R. Knight Corp. to succeed **Col. J. Edward Buxton,** who has been elected to the newly created post of chairman of the board. Mr. Smart has been treasurer of the company for more than a year and will continue to act in that capacity.

James P. Margeson, Jr., vice-president and general manager, Phoenix Hosiery Co. since 1931, was named assistant general manager and merchandise manager of Marshall Field & Co.'s wholesale and manufacturing divisions with headquarters in the Merchandise Mart, Chicago.

J. L. Lineberger, who recently disposed of his interest in the Spencer Mountain Mills, Gastonia, N. C., has resigned as president of the company. He will be succeeded by **W. T. Love,** who has been serving as treasurer.

W. T. Love was moved from president to chairman of the board, **E. B. Denny** from vice-president to president, **Robertson LaFar** was elected vice-president, and **J. N. Sherer** was elected secretary-treasurer of the Ranlo Mfg. Co., Gastonia, N. C.

Israel Brayton has been elected president of Sagamore Mfg. Co., Fall River, succeeding **Judge James M. Morton, Jr.,** who resigned because the corporation has become involved in litigation before the Federal Court. **William H. Jennings** was elected vice-president.

Howard Snow, formerly with the business department of McGraw-Hill Publishing Co. and more recently manager of Southern Friction Fabric Co., Charlotte, N. C., is now president of the mill, having purchased controlling interest.

Frank E. Slack, for 10 years secretary-treasurer of the Cotton Yarn Merchants Association, Philadelphia, was elected president of that body at the annual meeting. At the same time, the name of the organization was changed to Association of Cotton Yarn Distributors.

S. M. Robinson, previously secretary-treasurer of Ranlo (N. C.) Mfg. Co., has become associated with Groves Thread Co., Gastonia, N. C., and will handle sales in the combed and novelty yarn departments.

Louis G. Haller has joined the Tennessee Eastman Co., Kingsport, Tenn., in an administrative engineering capacity. He has been for 20 years with Hedges-Walsh-Weidner Co., Chattanooga, Tenn., and its predecessors. That company was acquired by Combustion Engineering Co. in 1928 and Mr. Haller has been southeastern sales manager.

J. C. McMurray, head of a local retail store, has been elected vice-president of the Springfield (Tenn.) Woolen Mills Co., succeeding the late C. H. Rickman.

H. W. Anderson, president of Fidelity Machine Co., Philadelphia and of Clyde Fabrics, Inc., Newton, N. C., has received appointment to the staff of Gov. Ruby Laffoon and is therefore a full fledged Kentucky colonel.

W. D. Carter, associated with the Carolina Cotton & Woolen Mills, Spray, N. C., for 21 months, has been transferred to New York City, where he will have charge of all direct sales from the silk and rayon mills of the company, as well as general supervision of the Carolina Cotton & Woolen Mills' New York office.

T. R. Cramer, for the last eight years designer and production manager of the men's hosiery department of May Hosiery Mills, Burlington, N. C., will go to Hickory, N. C., after the first of the year as a member of the firm of Kramer, Hollar & Brown, recently organized to manufacture hosiery.

Dr. Willard L. Thorp has become associated with Dun & Bradstreet, Inc., as director of economic research.

F. J. Wonders, formerly advertising manager of the Glidden Co., has been made advertising manager of Industrial Rayon Corp., with headquarters in Cleveland, O., it is announced.

W. H. Hand, formerly with Asheboro (N. C.) Hosiery Mills, is now with Wrenn Hosiery Mills, Thomasville, N. C., where he has charge of the hosiery dyeing and boarding and yarn dyeing and winding departments.

Charles H. Dimick has resigned his position as assistant to the executives of National Dyeing & Printing Co., East Paterson, N. J.

Joseph C. Cobb, formerly superintendent of Aiken Mills, Inc., Langley, S. C., is now night superintendent of Chiquola Mfg. Co., Honea Path, S. C.

E. H. Dobbin, assistant superintendent, Union Bleachery, Greenville, S. C., has resigned to become superintendent of the Pacific Mills bleachery at Lyman, S. C. He was succeeded by **H. R. Mathewson,** overseer of the finishing room.

Douglas F. Williamson, formerly of the Linen Thread Co., Inc., Blue Mountain, Ala., has been made superintendent of the Allred plant of Granite Falls (N. C.) Mfg. Co.

S. L. Redd has resigned his position of head of the calender room at the Union Bleachery, Greenville, S. C., and has accepted a position with the Hanes Dyeing & Finishing Co., Winston-Salem, N. C.

T. H. Barrett is now superintendent of Cotton Mills Products Co., Mobile, Ala. **M. T. Massingale** is overseer carding; **W. T. Cowart** is overseer of spinning; and **E. L. Baucom** is overseer of weaving.

J. L. Chapman, recently associated with the Cutter Mfg. Co., Rock Hill, S. C., has accepted a position with Ralph E. Loper & Co., industrial engineers, Greenville, S. C.

W. A. Dunlap, formerly of Pelzer, S. C., has been appointed overseer of spinning at the Norris Mills, Cateechee, S. C.

J. R. Turner is no longer connected with the carding and spinning departments of Virginia Mills, Inc., Swepsonville, N. C.

John Faulkner has been appointed overseer of night weaving at the Peerless Cotton Mills, Thomaston, Ga.

Harry Ingleson, formerly assistant superintendent of Chautauqua Worsted Mills, Jamestown, N. Y., is now associated with Caron Spinning Co., Rochelle, Ill.

Schuyler J. Taylor, general superintendent of the Russell Mfg. Co., Middletown, Conn., has relinquished that title to engage in special research for the company. **Gustav Walters** has been named superintendent of the belting and automotive divisions and **James A. Hendley** superintendent of the webbing divisions.

Royal P. White, former agent of Stirling Woolen Mills, Lowell, Mass., has accepted the position of agent for Amos Abbott Co., Dexter, Me.

H. D. Roberts, superintendent of the Magog (Que.) plant of Dominion Textile Co., Ltd., for 20 years, has been transferred to main office at Montreal.

George A. Howell, Jr., has been made purchasing agent at Rock Hill (S. C.) Printing & Fnishing Co., succeeding B. C. Moffatt.

H. L. Mayberry has been appointed general overseer of the Abernathy-Houser Mfg. Co., Statesville, N. C., formerly the Bloomfield Milling Co., which began operation about Nov. 1. **Wm. McLoud,** who is superintendent of the Rhyne-Houser Mfg. Co., Cherryville, N. C., will also be superintendent of the new mill. **A. H. Huss,** secretary and treasurer of the Rhyne-Houser Co., is secretary and treasurer of the new mill. **Howard W. Houser,** of Cherryville, is assistant secretary.

James Hillens, formerly with Cleveland (O.) Worsted Mills, has been appointed overseer of finishing for Sanford (Me.) Mills.

Clarence W. Lindsey has joined Wellington Sears Co., New York, in the fine-goods department.

C. L. Jolly has been promoted to superintendent of Riverdale Mills, Enoree, S. C.

Harry Carr, formerly with Francis Wiley & Co., Boston, has been appointed Boston representative for A. D. Windle & Co., Inc., Millbury, Mass. New offices have been opened at 200 Summer St.

W. D. Vincent, graduate of the engineering department of the Textile School of Clemson College, S. C., who has been instructor in textiles at the Great Falls (S. C.) High School, has been elected principal of the new textile school at Danville, Va.

Will Garrison, formerly of Burlington, N. C., has been engaged by the newly organized Grenaco Knitting Mills, Rockingham, N. C.

H. J. Daniel is now overseer of spinning at Stark Mills of United States Rubber Products Co., Hogansville, Ga. He was formerly associated with the Hogansville plant of Callaway Mills.

J. W. Trigg has been appointed superintendent of Oconee Textiles, Inc., Westminster, S. C., He was formerly associated with the Meritas Mills, of Columbus, Ga., and the High Shoals (N. C.) Mills.

W. I. Spencer, an official of the Lexington (N. C.) Silk Mills, will divide his time hereafter between Lexington and the newly established plant of the Burlington chain of mills, at High Point, N. C. The concern is operating at High Point in the building formerly used by the Stehli Silk Mill.

Robert D. Porter, formerly with the steam engineering department of J. E. Sirrine & Co., Greenville, S. C., textile engineers and architects, has resigned to become chief engineer of the Burlington Mills, with headquarters at Greensboro, N. C.

R. A. Burt, formerly overseer of the weaving department of the Peerless Cotton Mills, Thomaston, Ga., now holds a similar position with the Schoolfield plant of the Riverside & Dan River Mills, Danville, Va.

J. C. Morelaffd, formerly of Kings Mountain, N. C., has accepted the position of overseer of the spinning department of the Griffin (Ga.) Mills.

W. H. Ussery has resigned as overseer of the finishing and rayon departments of the Gossett Mills, Anderson, S. C.

W. H. Layton has accepted the position of overseer of the silk room and designer at Mooresville (N. C.) Cotton Mills. He was formerly with the Anderson (S. C.) plants of Gossett Mills.

F. D. Herring, formerly of Trion (Ga.) Co., has accepted the position of overseer of weaving at the Avondale, N. C., plant of the Cliffside Mills.

Obituary

Dr. Wylie C. Hamrick, aged 75, head of the Hamrick group of mills in South Carolina and long an influential leader in the Southern cotton industry, died Oct. 21 at Gaffney, S. C. Dr. Hamrick was one of the organizers in 1900 of the Limestone Mills, first of a chain of five mills now operating over 100,000 spindles. He also served three terms as State Senator.

Albert W. Elliott, aged 63, for many years partner in the wool house of Jeremiah Williams & Co., Boston, Mass., died at Newton, Mass., on Oct. 27. He was an ex-president of Boston Wool Trade Association and chief of the Wool, Top and Yarn Division of the War Industries Board in 1917 and 1918.

Col. Emanuel N. Campe, aged 62, president of the Campe Corp., and for two generations a leading figure in underwear distribution, died Oct. 10, at his home in New York City. Starting as a co-partner in the old firm of Hecht & Campe before the turn of the century, he formed the present firm with three brothers as partners in 1910.

Benjamin B. Tilt, aged 54, president of Phoenix Silk Mfg. Co., until his retirement five years ago, died in New York on Oct. 9.

Thomas H. Haller, aged 79, president of Union Mfg. Co., Frederick, Md., and one of its organizers in 1887, died on Oct. 21.

Henry W. Stecher, aged 79, president of National Woolen Co., Cleveland, O., died at Hot Springs, Ark., on Oct. 16.

George H. Leininger, aged 73, president of Industrial Hosiery Mills, Inc., Mohnton, Shillington, and Lebanon, Pa., died at his home in Reading on Oct. 15.

John Franklin Love, aged 69, whose activities included the building of Avon and Loray mills, died in Gastonia, N. C., on Oct. 17.

John T. Balmer, aged 58, for 25 years superintendent of Merchants Mfg. Co., Fall River, before its liquidation, died on Oct. 19.

Fritz Haltmayer, aged 61, formerly vice-president and general manager of Botany Worsted Mills, Passaic, N. J., died on the steamer "Europa" off the coast of France on Oct. 9. He was associated with Botany Worsted Mills for 34 years, resigning in 1931.

James A. Robinson, aged 94, who in 1890 organized the commission firm of Robinson & Schakelton in the Worth St. district of New York, died Nov. 6. He retired in 1910.

C. W. Baucom, aged 45, secretary-treasurer of American Yarn & Processing Co., at Mt. Holly, N. C., died on Oct. 30. Funeral was at his home in Monroe, N. C.

George Royle, Sr., aged 84, until his retirement in 1926 president of George Royle Co., Philadelphia, died recently. He was born in England.

Lenox A. Pickering, aged 52, head of the velvet division of Duplan Silk Corp., New York, for the last six years, died Nov. 4. He was previously with Vanetta Velvet Co. and A. Wimpfheimer & Bro.

Thomas F. Ashworth, aged 57, president of the Aldrich Mfg. Co., Charlton City, Mass., died at his home in that place on Oct. 7.

J. Harry Tregoe, aged 75, former executive manager of National Association of Credit Men, died at his home in Beverly Hills, Calif., Oct. 5.

Edgar H. Johnston, aged 78, for many years general manager of Highland Park Mfg. Co. and brother of C. W. Johnston, president of that company, died Oct. 3, at Rockhill, S. C.

Samuel Russell, aged 62, former first vice-president of Russell Mfg. Co., Middletown, Conn., and third of his name in the Russell descent, died on Oct. 4, at Camden, S. C.

Edward F. Ballsieper, Sr., aged 72, general superintendent of the velvet department, Cheney Bros., Manchester, Conn., died Oct. 17.

John H. Corr, aged 64, for about 25 years superintendent of Greenwich Bleachery, East Greenwich, R. I., until his retirement some years ago, died at Miami, Fla., on Oct. 28.

Eugene R. Grasselli, retired head of the Grasselli Chemical Co., Cleveland, O., died in California on Oct. 10.

Chester Encell Nichols, aged 51, president and treasurer of the Nichols Mfg. Co., Bridgeport, Conn., died recently.

Winn A. Holmes, aged 79, a stockholder and director of the Callaway Mills, died recently in La Grange, Ga.

John H. Fedden, aged 57, president of Fedden Bros. Co., hosiery manufacturers, Shillington, Pa., died of a heart attack in his New York office, Oct. 28.

Textile Calendar

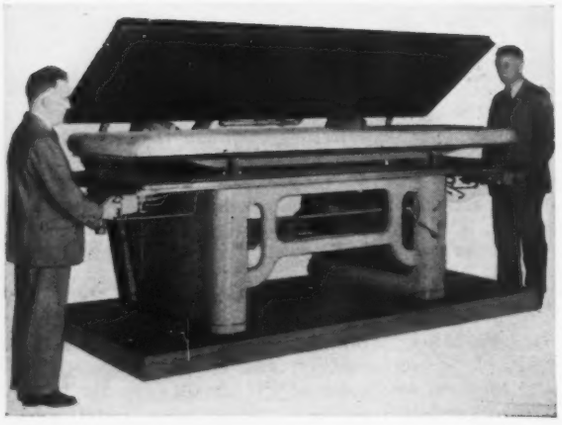
North Carolina Cotton Manufacturers Association, annual meeting, Carolina Hotel, Pinehurst, N. C., Nov. 21 and 22, 1935.

Fifteenth Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 2-7, 1935.

American Association of Textile Chemists, annual meeting, Chattanooga, Tenn., Dec. 6 and 7, 1935.

Thirty-second Annual Knitting Arts Exhibition, Commercial Museum, Philadelphia, April 20 to 24, 1936.

NEW MACHINERY



Sheet Packing and Finishing Press

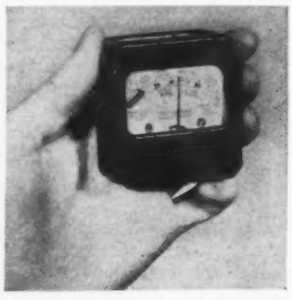
For finishing sheets folded twice in their length and again after folding to shipping size, a 30x110 in. press is being marketed by Prosperity Co., Inc., Syracuse, N. Y. The first operation enables the operators to stretch the sheet when folding, so as to have a nearly rectangular form. The second operation, after the sheet is folded to package size, is to press down the folded sheet as much as possible so as to save in package space.

For purposes of safety, two operators are required, and each operator is required to use both hands. The operators thus have complete control over the descending head, and the head is arrested and returned if either operator releases one of the hand-control buttons. The press has a special supporting structure with dual pneumatic motors. The ventilated lower buck can be equipped with vacuum or airflow for cooling and drying.

Flexible Carriers for Full-Fashioned

Flexible yarn carriers, designed like coiled springs and applicable to all full-fashioned hosiery machines, are being placed on the market by Hosiery Patents, Inc., Lansdale, Pa. Claims made for these so-called "Flexy" carriers include the following: Their tubes can be removed and replaced without heat or soldering. They prevent damage to sinkers. Knots in silk thread pass through the tubes easily. Production at plating can safely be speeded up 15 courses per minute. They yield to high-twist yarns, thereby reducing friction and wear. Hopping of the catch bar will not bend or nick the sinkers. Footers can be speeded up to produce three dozen hose or more per eight hours without danger to needles or sinkers.

Additional claims: For split work the carriers can be set low between the sinkers to prevent looping of ends and thus eliminate menders, since the cotton and silk will not lap together. Machine friction for plating or split work can be light, with little strain on the machine. Ringless washboard is reduced by the larger tubes in the carriers. Incorrect setting or operation of ringless attachments, causing the carriers to ride across the sinkers, will cause little damage to either machine parts or threads, with consequently slight delay. The temper of the tubes is not destroyed by friction heat. If the machine rolls back, the carriers have been found to ride safely over the sinkers. Error of setting when carrier bars are disengaged and re-engaged will cause no damage, nor will any "moving off" of the carriers.



Handy Light-Meter

A light-prescribing and measuring device, small enough to be carried in the vest pocket, has been announced by the Nela Park Engineering Department of General Electric Co., Cleveland, Ohio. The new light meter can be used wherever illuminating appraisals are desired, is 2¾ in. square by 1⅛ in. thick, and is incased in mahogany-finish Textolite. On the front of the meter is a rectangular-shaped scale with a range of 0 to 75 foot-candles, and printed on the back are the recommended minimum foot-candle values required for different types of work. A rectangular, light-sensitive cell, protected by a glass plate, is located at the top and is connected directly to a sensitive ammeter which is calibrated to read in foot-candles.

Knitted Lay-In Patented

A patent on the knitting-in of a rubber yarn for one or more needles at the beginning of the lay-in portion of a garter-top hose or other knitted fabric has been granted to Robert H. Lawson and Roy F. Lovell and assigned to Hemphill Co., Pawtucket, R. I. The purpose of the invention, already being employed by licensed hosiery manufacturers, is to prevent pulling in of the rubber yarn when the fabric is stretched.

A number of different methods of knitting the patented fabric are shown in the patent papers, but the inventors state that the preferred method is to feed the elastic thread below the latches of raised cylinder needles and below the level of dial needles which are in retracted position. Thereafter the dial needles are projected and the cylinder needles are moved to stitch-drawing position in the usual manner. The patent as issued covers the knitting of both plain and rib fabrics.

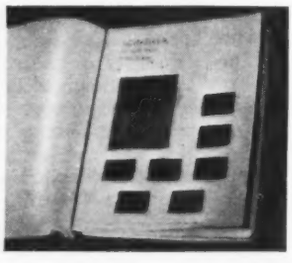
The patent papers also describe a method of knitting a garter as an integral part of the sock in such a way that the garter portion of the stocking assumes an angle with respect to the remainder of the stocking which is ordinarily assumed by the garter in common use. This may be achieved either by knitting a pull course below the elastic courses and across a certain number but not all of the wales or the rib top, or by cutting across the desired number of wales.

Oil-Blast Breakers

New oil-blast breakers for panel mounting, designated as Type FK-43, are announced by General Electric Co., Schenectady, N. Y. The oil-blast principle of interruption is said to increase reliability, reduce maintenance, and cut floor space 35%. Features include silver-to-silver contacts to prevent cumulative overheating, new type solid-butt interrupting contacts, all three poles inclosed in one frame, tank made of welded steel plate, and Herkolite bushings.

Sample Books

Plymouth Sample Card Corp., 520 Broadway, New York, has developed a textile sample book the cover of which is china-white Lumarith (cellulose acetate manufactured by Celluloid Corp., New York. Lumarith is non-inflammable, flexible, and has a highly polished, smooth surface. The cover is washable and, as it will not crack



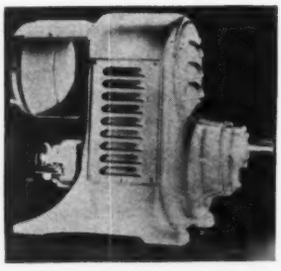
at the corners, presents a neat appearance and gives long service.

Two-Stage Centrifugal Pump

A two-stage centrifugal pump, known as Monobloc, applicable to services requiring small capacity and medium discharge head, is announced by Worthington Pump & Machinery Corp., Harrison, N. J. The casing, designed to withstand 150 lb. pressure, has no baseplate, being bolted directly to the motor frame. The impeller unit, mounted directly on the motor shaft, consists of two inclosed-type impellers cast back-to-back so that the overhung weight is no greater than that on a single-stage pump. The impeller and shaft sleeve are both keyed, the latter being a separate renewable part. The pump is powered by an electric motor, which features oversize grease-lubricated ball-bearings.

Upright, Variable-Speed Drive

Upright models of the U. S. Varidrive are now offered by



the U. S. Electrical Mfg. Co., Los Angeles, Calif. The upright design gives a saving in lateral space and also gives the user the option of having the take-off shaft at either the high or low position. The drive is described as capable of infinite variation in speed with local or remote control.

Self-Cleaning Atomizer

Planned to give a fine, smoke-like spray that is projected a long distance, the Amco No. 4 atomizer has been announced by the American Moistening Co., Providence, R. I. The atomizer is self-cleaning, and whenever the compressed-air supply is cut off, whether manually or in response to a humidity control, both water and air nozzles are cleaned. On starting, atomization does not begin until there is sufficient air pressure to produce good spray, and, on stopping, atomization ceases before air pressure has fallen to a point where good spray is impossible. In this way, dripping or feathering down is said to be eliminated.

The nozzles are surrounded by a smooth, concave, hemispherical surface to protect them from injury and prevent the accumulation of lint, which is swept away by streamlined currents of induced air. Working parts are of metals that have proved durable and are inclosed in a bronze body which is easy to clean. The joints are metal to metal and machined so that

AND PROCESSES

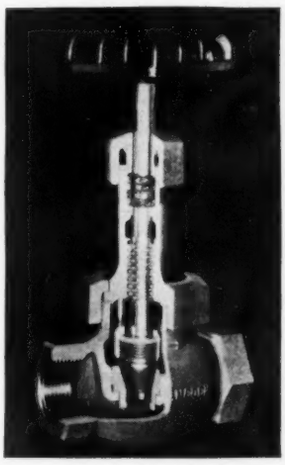
tightness is secured without the use of gaskets. The Amco No. 4 conforms to standard practice in capacity, air pressure required, and air consumption. Connection to air and water lines is also standard.

Air Meter

An instrument intended for the measurement of pressure or vacuum, as well as velocity in feet per minute, of air inside of ducts, or at the face of fans, etc., has been announced by Julien P. Friez & Sons, Inc., Baltimore St. & Central Ave., Baltimore. The meter covers velocities ranging from 140 to 2,832 ft. per min., and pressure or vacuum ranging from 0.00125 to 0.50 in. of water.

Union Bonnet Valve

Advanced features in the new union-bonnet globe valve recently announced by Hancock



Valve Co., 103 Elias St., Bridgeport, Conn., include stainless-steel valve disks and seat rings, special bronze stem and bonnet, and a distinctive design in back seating to permit repacking while valve is in pressure service. The disks and seat rings are hardened to 500 Brinnell to prevent wire drawing, steam cutting, and galling. The stem is attached to the disk to insure correct seating and to facilitate grinding.

Sheaves for V-Belt Drives

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has extended its line of Texsteel sheaves for V-belt drives, so that Duro-Brace drives may now be had up to 15 hp. The grooves of the entire line are designed to permit their use with A-section belts ($\frac{1}{2}$x$\frac{1}{2}$ in.) or with B-section belts ($\frac{3}{4}$x$\frac{7}{16}$ in.), depending on the application.

Portable Test Units

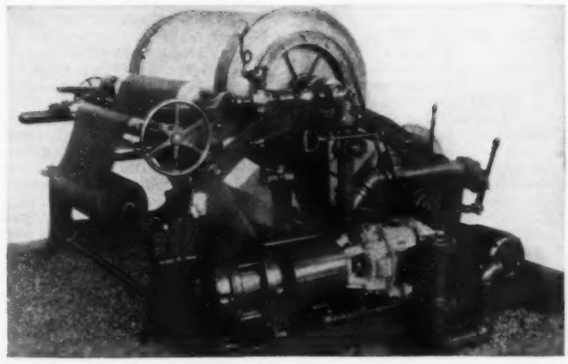
Compact, light-weight, portable volt-ohmmeters, particularly suitable for general testing and laboratory work, have been announced by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. The instruments are equipped with a new type d'Arsonoval movement and switches for range selection, the units being intended to simplify the testing of circuit resistance, continuity, and insulation. Several types are available, including simple ohmmeters, d-c. test units, and the more elaborate multi-scale a-c. and d-c. test units. The instruments weigh 2 lb., and are accurate within 2% for d-c. and 5% for a-c. current.

Microscope Specimen Illuminator

The difficulty of lighting opaque specimens by means of lights placed above or to one side of the microscope has been overcome by a new surface illuminator, developed by Bausch & Lomb Optical Co., Rochester, N. Y., for illuminating either opaque or translucent specimens when examined at low magnifications. The illuminator is designed to give a well-balanced cone of light which can be varied both in intensity and incident angle. It consists of an annular ring holding six, 2.5-volt bulbs equally spaced around the inside of the ring, with individual reflecting surfaces back of each bulb. The ring slips on over the microscope objective and is held in position by an extension rod suspended from a clamp attached to the eyepiece adapter, which may be either vertical or horizontal. A transformer is supplied for a-c. current, or a converter for use with d-c. current.

Hosiery Transfer Device Patented

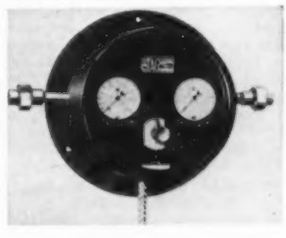
The Textile Machine Works, Reading, Pa., asserts that the equipment for placing transfers on hosiery described by George E. Cottrell on page 120 of the September issue is covered by U. S. patent 1,504,479. This was issued to Henry Janssen, assignor to Textile Machine Works, on Aug. 12, 1924. Readers are therefore warned not to construct this device without previous arrangement with the patent owner.



Fabric Conditioning Machine

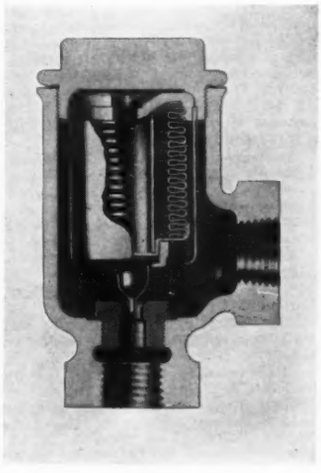
Designed particularly for handling rayon fabrics, a conditioning machine of the decating type has been announced recently by Van Vlaanderen Machine Co., Paterson, N. J. The method employed with this equipment includes the winding of the goods, together with an apron, on a perforated drum so that alternate layers of goods and apron are formed. Dry steam is injected through the perforated drum and then cooling is effected quickly by means of a vacuum pump. The steam expands the fibers of the fabric, which, being held in position by the apron, is subjected to a certain amount of pressure. The quick cooling causes the fabric to set with the fibers expanded. To complete the operation, fabric and apron are wound on separate drums. This method is said to give clearness of color and fuller hand, to add weight and give permanence, to eliminate the artificial appearance of rayons, and to remove wrinkles.

A special feature of the machine is the continuous application of a vacuum on the apron to keep it dry, since excessive moisture tends to rot the apron and to injure the finish of the fabric. This is accomplished by means of a vacuum pump which is connected to the main perforated drum and to the perforated drum on which the apron re-rolls. The vacuum is shifted from one drum to the other, following the position of the apron. Controls are conveniently placed, and gages and yardage indicators are included.



Compact Temperature Controller

A redesigned temperature controller, known as the Tag No. 40, for which compactness and the accessibility of the few simple parts are claimed, has been placed on the market by C. J. Tagliabue Mfg. Co., Park & Nostrand Aves., Brooklyn, N. Y. A spring lever, designed to eliminate all lost motion, multiplies the movement of the capsular spring for sensitive, but positive, control. A small change in temperature is transmitted with precision to the Tag ball air valve, which in turn resets the rate-of-flow through the diaphragm-actuated control valve. Indicating and non-indicating types in nine temperature ranges and three pressure ranges are available.



Thermostatic Steam Trap

Sarco Co., Inc., 183 Madison Ave., New York, has added to its line of steam traps a model designed to drain high-pressure steam coils and jackets. The trap will handle either steady or fluctuating steam to 200 lb. per square inch. The thermostatic bellows is made of helically corrugated heavy-wall tubing. The special caps used for the top and bottom of the bellows, have internal screws of the same pitch and profile as the flexible tubing which is screwed into the cap. The joint is sealed with a special high-temperature solder. The shield protects the element from abrasive action of the steam and permits it to be removed from the trap body while hot. Body and cap both are of heavy cast bronze with a raised-face, metal-to-metal joint between them to eliminate necessity for a gasket. The valve head is spherical for high capacity and movably mounted to assure perfect seating. Both valve head and seat are made of stainless steel.

Business Literature

Paint. Pittsburgh Plate Glass Co., Pittsburgh, Pa. Booklet, "Glorified Light," discussing the science of seeing, the part played by paint in proper lighting, and three systems of painting for use under various classifications of surface exposures.

Sales Control. Roland G. E. Ullman, marketing counselors, Philadelphia. Booklet entitled "The Control of Selling Cost, Volume and Profit" discusses the possibilities of greater profit through more economical marketing and distribution, together with control of selling time-effort so that it may be applied in direct proportion to the available business. Cites graphic instance of right sort of sales control system.

Rayon Sizing. Charles B. Johnson, Paterson, N. J. October issue of *Rayon Warp Sizing Specialist* featuring article on "The Place of Gelatins in Synthetic Yarn Warp Sizing," by W. L. Bentley, textile technician.

Mechanical Rubber Goods. Thermoid Rubber Co., Trenton, N. J. Illustrated 34-page general catalog of mechanical rubber goods including conveyor and transmission belts, hose, tubing, and packing. Southern distributor is Terrell Machine Co., Charlotte, N. C.

Arc Welding. Lincoln Electric Co., Cleveland, Ohio. Illustrated 42-page book, "Automatic Arc Welding by the Electric Tornado," the process being a system of carbon arc welding for use in industries where products of relatively uniform character are produced in large quantities. A second booklet discusses electrodes for all welding purposes, as well as a description of the newest developments in welding supplies and accessories.

Induction Motors. Reliance Electric & Engineering Co., Ivanhoe Rd., Cleveland, Ohio. Folder describing Type AA Reliance induction motors with squirrel-cage frames 202-405.

Dredging Pumps. Lawrence Machine & Pump Corp., 371 Market St., Lawrence, Mass. Bulletin 208 devoted to a line of standard dredging pumps for mixtures of water and abrasive solids.

Conveyors. Standard Conveyor Co., North St. Paul, Minn. Three new catalogs describing latest developments in the conveyor field. The first is a 40-page catalog designed to show and describe general designs of conveyors, and offer solutions to handling problems. The second contains 55 pages and is devoted to the gravity roller type of conveyor. The third is profusely illustrated with installations of pneumatic-tube systems and their applications.

Centrifugal Pump. Lawrence Pump & Engine Co., Lawrence, Mass. An 8-page bulletin describing and illustrating the Electropump, a compact centrifugal unit for general service.

Steam Plants. Cleaver-Brooks Co., Milwaukee, Wis. A 12-page booklet pointing out advantages of Oilbilt steam generating plants for industrial applications. Contains blueprints, specifications, and test data of interest to engineers.

Zinc-Alloy Die Castings. New Jersey Zinc Co., 160 Front St., New York. An 80-page "visual report of progress" of products utilizing zinc-alloy die castings; the book contains scores of bleed-border photographic reproductions. A second booklet of 42 pages is devoted exclusively to the properties and applications of the Zamak line of zinc-alloy die castings.

Bearings. Fafnir Bearing Co., New Britain, Conn. A photographic review of the major steps in the manufacture of ball bearings entitled "Bearings in the Making." Illustrations include forging and machining of rings, cold forming of balls, hardening, facing, grinding, and matching.

Compressors. Worthington Pump & Machinery Corp., Harrison, N. J. Folder devoted to line of single horizontal, single-stage steam- and motor-driven compressors.

Drives. Allis-Chalmers Mfg. Co., Milwaukee, Wis. New 32-page bulletin, No. 1259, devoted to Texrope drives for machine tools, profuse with illustrations and showing 60 typical applications of the V-belt drive to machine tools.

Cleaners. Parks-Cramer Co., Fitchburg, Mass. October issue of *Parks' Parables* featuring an article "Will Automatic Cleaners Pay?"

Dyes. General Dyestuff Corp., New York. Color card showing Naphtol AS, Rapid Fast, Rapidogen, and Rapidazol dyeings and prints of vat-color fastness.

Laminated Bakelite. Synthane Corp., Oaks, Pa. Folder containing essential physical, electrical, chemical, and mechanical properties of Synthane. One section deals with silent stabilized-gear material and methods of gear cutting.

Valves. Hancock Valve Division of Consolidated Ashcroft Hancock Co., Bridgeport, Conn. Two bulletins describing (1) the manually operated Flocontrol valve with straight-line flow characteristic, and (2) the union bonnet bronze valve with superhard stainless-steel trim to resist wire drawing and steam cutting.

Compensated Belts. Manhattan Rubber Mfg. Division of Raybestos - Manhattan, Inc., Passaic, N. J. Leaflet describing construction and advantages of the Condor low-tension rubber belt with equalized ply stresses. A second bulletin recently released is devoted to Condor V-belts.

Building Maintenance. Stonehard Co., 401 North Broad St., Philadelphia. Illustrated 24-page booklet, "Over the Rough Spots," which discusses methods of lengthening life of concrete floors, leveling rough and worn spots in all types of floors and trucking aisles, waterproofing roofs against rain, and waterproofing masonry against hydrostatic pressure.

Bearings. Norma - Hoffman Bearings Corp., Stamford, Conn. Booklet describing latest addition to line, Precision Needle roller bearings, designed for use where minimum outside dimensions, minimum weight, and concentrated load capacity are requisites.

Business News

Whitin Machine Works, Whitinsville, Mass., has engaged Carl D. Brandt, former head of Textile Engineering Dept., Texas Technological College, Lubbock, Texas.

Warwick Chemical Co., West Warwick, R. I., has found business to be sufficient to divide the southern territory. Whereas W. E. H. Searcy, 3rd, has been covering the entire southern territory, he is now concentrating his efforts on Georgia, Alabama, and part of South Carolina. His headquarters, as before, will be in Griffin, Ga. Earl H. Walker, formerly with Solvay Sales Corp., has opened headquarters in Concord, N. C., to cover part of South Carolina, North Carolina, the Virginias, and Tennessee.

American Cyanamid Co. has purchased the five-story plant in Stamford, Conn., which was built eight years ago for the H. E. Verran Co., manufacturers of floss for embroidering. The plant contains 260,000 sq.ft. of floor space, will be used for research laboratories, and the company plans to expand greatly its sales service facilities.

Jim Miller has been placed in charge of engineering and service in the Carolinas and Virginia by H. & B. American Machine Co. and will be connected with the Charlotte office, according to **J. W. Rimmer,** manager.

Joseph Noone's Sons Co., Peterboro, N. H., has again had its president, Major E. Erland Goyette, elected as president of the New Hampshire Manufacturers Association.

Bakelite Corp. celebrated its 25th anniversary last month, and to commemorate the occasion issued a 48-page jubilee edition of its house magazine, *Bakelite Review.* Among the many interesting features of this edition is a special article on the textile industry, which discusses the relationship of the Bakelite materials to this industry. Another section of special interest contains "I Remember When" human-interest anecdotes, which chronicle some of the pioneering incidents of the plastic industry in the last quarter-century.

E. I. du Pont De Nemours & Co. are moving their Charlotte, N. C., offices and laboratories from W. 1st St. to the first floor of the Duke Power Co. Bldg. on South Church St. John L. Dabbs is southern manager.

W. J. Westaway Co., Ltd., textile supply firm, Hamilton, Ont., announces that the successor to its late president, W. J. Westaway, is H. M. Marsh, who has been vice-president for 10 years. W. A. Kennedy, who has been a director, was chosen vice-president. J. C. Westaway was elected secretary-treasurer.

Staley Sales Corp., Decatur, Ill., has transferred John H. Harris from the Alabama-Mississippi territory to the North Carolina-Virginia territory with headquarters at Greensboro, N. C. Mr. Harris was succeeded in the former territory by H. A. Mitchell, who will maintain headquarters at Birmingham, Ala.

Brugger Winding Co., manufacturer of patented, self-balancing, expanding swifts, has removed its plant and offices from 41 East Gowen Ave., Philadelphia, to larger quarters at 600 East Phil-Ellena St., Philadelphia.

Lamb Knitting Machine Corp., Chicopee Falls, Mass., has been reorganized and is prepared to supply information on Lamb machine parts and new equipment.

Klein & Saks, marketing industrial and management consultants, have removed their offices to 52 William St., New York. The personnel of this firm includes Dr. Julius Klein, former Assistant Secretary of Commerce.

American Aniline Products, Inc., have opened a branch office, laboratory, and warehouse at 55 Pine St., Providence, R. I. to facilitate deliveries and service to mills in Rhode Island.

Consolidated Sewing Machine & Supply Co., New York, has added a knitting machine department to its machinery business. It is also offering a new line of round leather belting under the brand "Durabelt."

General Electric Co.'s board of directors has elected to membership on the board Robert C. Stanley, who has been president of International Nickel Co. since 1922.

E. F. Houghton & Co., Philadelphia, report the completion of new executive offices and increased storage and shipping space at their main plant in Philadelphia. Their Canadian subsidiary, E. F. Houghton & Co., of Canada, Ltd., Toronto, has erected a sulphonating plant to increase its capacity. Improvements and additions to the company's branches in Chicago and Detroit have been made in anticipation of an upturn in general business.

Corn Products Refining Co., New York, celebrated the fiftieth anniversary of Charles Ebert's connection with the corn products industry at a dinner given in his honor at the Downtown Athletic Club. In addition to the entire executive staff of the Corn Products Refining Co., some 200 of his business associates and friends were present.

Inventions Digest, Inc., 310 S. Michigan Ave., Chicago, which has been serving manufacturers by issuing a monthly bulletin covering American inventions in the manufacturer's line, is now rounding out its service by an arrangement for listings of inventions in several European countries and is carrying on negotiations to still further broaden the field.

New Publications

A.S.T.M. Standards on Textile Materials; prepared by Committee D-13 on Textile Materials; published by American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa.; $1.50.

The 1935 edition of this book, which has been called the most important in the textile industry, gives in full the 37 standards which have been established by Committee D-13 to date. These standards include methods of test and the tolerances within which textiles must come to constitute good delivery on contract. They cover a variety of cotton, wool, rayon, silk, asbestos, and jute materials; and the number of items standardized has grown considerably since the last edition was published, in 1933.

In addition to adopted standards, the new book contains (thanks to a broadened policy) two important proposed standards now engaging the attention of the committee; namely, "Fastness of Dyed or Printed Cotton Fabrics to Laundering or Domestic Washing" and "Slippage in Silk and Rayon Woven Broad Goods." By publication of such standards previous to adoption, the committee hopes to solicit criticism and also to permit earlier use of its conclusions.

Another innovation in this year's edition is a section devoted to abstracts of technical papers presented at recent D-13 meetings. Other important additions are a complete list of the names and business connections of the committee's members, as well as the memberships of the 23 subcommittees; a psychrometric table for relative humidity; and a yarn-number conversion table. The former photomicropgraphs of common textile fibers have been replaced by new ones prepared by the U. S. Department of Agriculture. These, made by an improved process, are believed to be the best fiber illustrations ever published.

Controlled Humidity in Industry, by M. C. Marsh; J. B. Lippincott Co., Philadelphia, $2.50.

In this book Dr. Marsh, of the British Wool Industries Research Association, reviews concisely the question of humidity control under industrial conditions. Subjects treated in-

clude the following: fundamentals of humidity, measuring relative humidity, methods of increasing and decreasing humidity, central station plants, automatic humidity controls and thermostats, and humidity control in testing rooms and laboratories. The object of the author is to acquaint executives, engineers, and research workers with what has been accomplished in the control of humidity. No attempt has been made, however, to give the constructional details of humidifying equipment or to guide the reader in determining the capacity of apparatus needed to meet particular conditions. The book is copiously illustrated with photographs and diagrams of the various makes of equipment available in England. These include a number of types made in this country, but from the viewpoint of the American reader there are several important omissions. Bearing the latter fact in mind, one will find that this book gives an excellent general picture of the methods and equipment for controlling humidity in industrial plants.

Diet and Physical Efficiency, by H. W. Haggard, M.D., and L. A. Greenberg, Ph.D.; Yale University Press, New Haven, Conn; $3.00.

The authors of this book have taken a fundamental problem which is of interest to all employers of labor and brought to it the approach of pure science. The volume gives data relating to the distribution of diet in time and a careful analysis of the effects on efficiency of various eating schedules. Effort is made to formulate the best meal time interval. The respiratory quotient and blood sugar concentration are taken as indexes of muscular efficiency.

The conclusion is that efficiency and productivity of workers eating five meals a day were superior to those using other intervals. The issue is not quantity of food but its better distribution. The extra meals were light and taken early in the third hour of the morning and afternoon working periods. The other meals are proportionately reduced so that the total food taken is the same as for three meals. The statistics and details are most persuasive.

Textile Problems for the Consumer; by T. N. Carver, M. S. Woolman, and E. B. McGowan; the Macmillan Co., New York; $1.60.

This book is written primarily for the enlightenment of women purchasers of textiles, although much of the content is applicable to purchasers of anything. The first section, for example, by Dr. Carver, of Harvard, seeks to give the reader an understanding of the laws of economics. This section is more abstruse and fundamental than probably the average purchaser of the book will be prepared for and perhaps willing to read. It is material rarely found in a book which does not carry the word "Economics" somewhere in its title; but perhaps a widespread understanding of economics will never be attained unless the information is slipped quietly over the unsuspecting reader in some such manner as this. We compliment the authors on their attempt to do this.

The second section, by Professor Woolman, formerly of Columbia, is a ringing indorsement of the industrial recovery plans of the present administration. "The New Deal," the author says, "is planned to be a peaceful transition from one economic system to another." Like the first section, this seems to be an attempt to inform the reader regarding matters which she seldom shows any inclination to study fundamentally.

The third and last section, by Dr. McGowan, of Columbia, contains the information which is probably about all that the average reader will expect to find. It teaches how to recognize quality and durability in fabrics and how to purchase wisely. The author notes an increasing desire for durability, with correspondingly less emphasis on price, color, style, and design. She discusses labeling, testing for quality by both simple and laboratory methods, and the care of fabrics.

Knitting Mathematics and Mechanisms, by John Chamberlin; published by the Textile Trades Advisory Committee of the City of Leicester Colleges of Art and Technology, Leicester, England; 10s. 6d.

This is the third edition of a book which first appeared twelve years ago. Extensive revisions have been made to allow for the higher production of modern machines and their increased design capacity; and a new chapter on the treatment of statistical data, written by J. B. Lancashire, has been added. Another new chapter discusses calculations on design areas. Other mathematical material includes calculations on raw materials, threads, yarns, and warping; the relation of gage to yarn counts and production; cost calculations; and fabric calculations. The section on mechanisms includes explanations of typical machine principles and contains a chapter on jacquard mechanisms.

Manual for Foremanship Development; Industrial Relations Dept., Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.; $1.

This manual is based upon the experience of the Westinghouse Electric and allied companies, and that of others who have been active in supervisory training. It is intended for both group leaders and the members of conference groups. The first part briefly presents the increasingly important place which the foreman and the supervisor hold in industrial organization. Then follows a series of practical suggestions for conference leaders. The final section outlines a series of 38 conferences on major problems in foremanship, including outlines for discussion on collective bargaining, foremen as managers and leaders, labor turnovers, waste, developing understudies, company policies, wages, cooperation, self analysis, and similar topics. The course is especially suited to industrial organizations which are not in a position to develop a foremanship training course of their own.

Ederer Heads Phila. Textile Manufacturers

Clarence L. Ederer, of R. J. Ederer Thread Co., has been elected president of the Philadelphia Textile Manufacturers Association, it is announced. Other officers chosen were: vice-presidents—John E. Bromley, Jr., of John Bromley & Sons Mfg. Co., and Franklin P. Knipe of Walter E. Knipe & Sons; secretary—John E. Fite, Jr.; and treasurer—Arthur B. Otto, of Jonathan Ring & Co. The association also elected new directors for its weaving, knitting and pile fabric groups, and the following directors at large: J. R. Bux, of J. Sullivan & Sons Mfg. Co.; Benjamin Gibbs, Gibbs Underwear Co.; R. A. Lukens, Continental Mills, Inc.

Textile Associates Meet

Alfred Pate, of Soule Mill, New Bedford, Mass., was the chief speaker at the first fall meeting of the Textile Associates Club which was held Oct. 12 at the Narragansett Hotel, Saylesville, R. I. He spoke on the N.R.A. and present conditions and urged single shift operation. The club held its second meeting Nov. 9, the subject being "The Growth and Marketing of Raw Cotton."

U. S. Testing Co. Awards Fellowship

The U. S. Testing Co. has granted to Prof. Ethelwyn Dodson, of the extension service department, University of California, a fellowship in garment construction and design. The aim of the fellowship, explained by D. E. Douty, president of the testing company, is to secure serviceability data on design, construction, and fabrics of garments other than women's dresses. Miss Dodson will devote her researches to the coat and suit industry and will have headquarters at the firm's Hoboken (N. J.) laboratory.

Industrial Textiles Featured at N. Y. Show

Various interesting textile features were included in the Industrial Materials Exhibition which was held Oct. 21-26, at the Hotel Astor, New York. One striking item was the miniature felt-making equipment shown by the American Felt Co. Other displays of interest to textile men were those of the Bakelite Corp. and the Brown Co.

N.R.D.G.A. Silver Jubilee to Be Held Jan. 20-24

Department store sales increased 12% in the first half of October against the same period in 1934, according to figures made public by the National Retail Dry Goods Association. The N.R.D.G.A. also announced completion of plans for its twenty-fifth annual convention to be held in New York at the Hotel Pennsylvania, Jan. 20 to 24.

Fashion Group Hears Propaganda Apostle

Fashion is an industry and should be propagandized as such, declared Edward L. Bernays, public relations counsellor, at a New York luncheon of the Fashion Group, Oct. 30; his wife, Doris E. Fleischman, another speaker, urged the Group to exercise "super-control" over fashion, following "the procedure adopted in the sugar and tin industries."

Studies on Government Loans to Industry

Machinery created by Government to finance business, particularly small business, has not functioned altogether satisfactorily, according to a study entitled "What About Direct Loans to Industry?" just released by a committee representing the Associated Business Papers and the National Conference of Business Paper Editors. This study, which analyzes the record of the RFC, of Federal Reserve System banks, and the FHA, points out that to date only a fraction of the funds intended for use by business has been released. The further point is made that railroads, insurance companies, banks and farmers have realized far greater benefits through federal financing than has private business. Many constructive recommendations are made pointing the way to correct this situation.

This study, available at 50c. per copy through the Associated Business Papers, Inc., 330 West 42nd St., New York, has been followed by another, prepared particularly for business men who are interested in possibility of obtaining loans either through Federal Reserve System banks, RFC, or FHA. This second study is entitled "A Guide to Applicants for Direct Loans" and is available at 25c. per copy.

New Athletic Field

A new athletic field for Lowell (Mass.) Textile Institute, laid out by the engineering students, is being built under an ERA appropriation. The site is on Riverside St. north of the present field.

TEXTILE WORLD'S

Cotton Digest

"NOW that we are twelve . . ." is the title of a recent number of the *King Cotton Weekly,* issued by the Southern Combed Yarn Spinners Association.

Now by instinct we have built up an editorial sales-resistance against just ordinary birthdays. When we are asked to write a piece about some one who is, say, 43 years old next Tuesday, we point out that each one of us has a birthday every year—and that if we noted, in print, all the birthdays of all the people identified with the textile industry, we wouldn't have room for anything else. "Come around when he is 50 years old," we say.

Twelve isn't, in itself, anything special. But in this case, we think the birthday deserves noting. In the first place, the association has gained rather than lost membership since the Supreme Court's NRA decision! (And that's something.) Then, too, in 12 short years it has grown from a purely local organization to one which is truly representative of the combed yarn industry of the South, having the cooperation of 95% of the spindles in that industry.

But, more strongly than these facts and than even the effective conduct of its several activities, the personal contact between its executive personnel and its members appeals to us. This association is one of the several smaller, specialized groups in the industry which do a thorough, intimate job in an unspectacular way. Unskilled in ballyhoo, its headquarters staff deserves a little outside ballyhoo like this.—*Editor.*

Naumkeag Workers Return to Jobs

The strike affecting 2,100 workers at Pequot Mills, Salem, Mass., and the Danvers Bleachery at Peabody, both owned by the Naumkeag Steam Cotton Co., which started on Aug. 12, came to a conclusion on Oct. 22 when an agreement was signed by the management and officials of the Independent Sheeting Workers Union. The most important feature of the agreement is that Fred M. Knight, state industrial relations adjuster, will decide whether the management is justified in its contention that a wage reduction ranging from nothing in the lower classifications to 15% in the high-wage groups should be put into effect. Mr. Knight on Nov. 8 reported that changes averaging an 11% reduction were justified and that the wage rates would still be considerably higher than the average in all northern mills; also that work assignments are higher in competing mills than at Pequot.

The labor situation is curious. The Independent Sheeting Workers Union was formed as a result of the strike two years ago when the workers felt that they could get along better by themselves than as a local of the United Textile Workers. The U. T. W., however, still has the loom-fixers and would like to get back the majority of the workers. The mill has always been noted for its high wages, its willingness to cooperate with labor, and fair working conditions, and yet, leaving out the general textile strike, the plant has been closed 22 weeks out of the last two and one-half years and a payroll averaging about $35,000 per week has been lost.

•

Meeting Month

Manufacturers' groups, trade associations and technicians interested in the cotton textile industry held many meetings during the last few weeks. Probably the most outstanding gatherings (described elsewhere in this issue) were those of the Cotton Textile Institute at New York, the National Association of Cotton Manufacturers at Boston and Committee D-13 at New York.

Over 100 carded yarn manufacturers met at Charlotte, N. C., and adopted a resolution recommending that all carded yarn spinners continue to comply with the hours, wages and production provisions of the former NRA code.

The Virginia Manufacturers Association, meeting at Martinsville, Va., was addressed by Robert R. West, president of Riverside & Dan River Cotton Mills, Inc., and by H. B. McCormac, president of Virginia Woolen Co., Winchester, Va.

The Cotton Thread Institute met at New York to elect officers and to discuss general trade conditions, as well as to consider the newly organized credit, collection and tax information service. Josef Pollack, of Max Pollack & Co., was elected president. Other officers included John B. Clark, first vice-president, E. Martin Philippi, second vice-president, C. E. Chaffin, treasurer, and W. R. L. McBee, secretary.

Several divisions of Southern Textile Association met in different sections of the South. The Carolina Yarn Association held its sixth annual golf tournament at Pinehurst, N. C., early this month, and the Cotton Manufacturers Association of North Carolina will meet at the same place Nov. 21 and 22.

•

Crop Forecast Lower

Cotton crop forecast released Nov. 8, on condition as of Nov. 1, was 11,141,000 bales, a drop of 323,000 bales from the forecast of 11,464,000 bales for the crop as of Oct. 1.

•

Labor Strife Causes Chicopee to Close

"This mill is hereby closed. Employment arrangements with all officials and operatives terminate today. The community store will remain open for 30 days, during which period limited credit will be extended to assist you while seeking reemployment," read a notice posted last month on the doors of Chicopee Mfg. Corp. of Ga., Gainesville. The shutdown followed weeks of labor strife marked by a short strike and the flogging of two officials, M. T. Grimes, agent, and John Snead, efficiency expert.

•

To Hold Hearing on Converters' Trade Rules

An open hearing on the trade-practice rules proposed by the cotton converting industry is to be held in the Federal Trade Commission Bldg., Washington, D. C., on Nov. 18. The rules are the same as those carried in the former NRA code for the industry, and cover such trade practices as terms of sales, deliveries, rebates, labeling, etc.

•

Amoskeag to Run If Possible

"I will never consent to liquidation until I am convinced that future operation of the mills (Amoskeag Mfg. Co.) is impossible!" declared F. C. Dumaine, treasurer, when he appeared last month before the Citizens Committee (representatives of local business, banks, city government, labor organizations, etc.) of Manchester, N. H. When questioned regarding the future of the company, Mr. Dumaine explained that the mills are closed to prevent further losses, but that every effort is being made to resume operations.

The committee suggested that possibly Amoskeag might continue to operate its worsted and woolen units, but Mr. Dumaine objected that this small department could not possibly pay the overhead. A proposal to separate the cotton and worsted units by means of separate companies seemed to meet with more favor with him, although he explained that nothing at all could be done until after receipt of the Governor's textile committee report.

Cloth Market Booms

The gray goods market during October was very firm and observers believe that the present fundamental strength will hold throughout the remainder of the year, with a possible pickup about Jan. 15. Sheetings, particularly the narrow industrial variety, were extremely active, and, in some instances, prices were 3c. lb. above the previous month. The volume of fine goods slacked a bit toward the end of the month and prices tended to soften, but not seriously. Colored yarn goods and coarse gray goods were stronger.

•

Yarn on the Up-and-Up

October was a good month for yarn spinners, who, at times, were hard pressed to fill orders, some finding it impossible to make deliveries before January. Stocks continued to drop to practically nothing, and prices showed a constant upward trend, rising from ¾ to 1c. Mercerizers reported the first price advance in two years.

•

September Statistics

Statistics of particular interest to cotton manufacturers, showing September operations and the raw material situation, were:

Spindle activity	93.9% capacity or 6,183,763,453 spindle hours
Cotton exported	486,764 bales
Cotton imported	6,374 bales
Cotton ginned to Oct. 18	6,589,799 bales

August operations for comparison:

Spindle activity	76.4% capacity, or 5,545,241,375 spindle hours
Cotton consumed	408,410 bales
Cotton exported	241,284 bales
Cotton imported	8,002 bales
Cotton ginned to Sept. 16	2,318,395 bales

•

Industry Briefs

Hoosac Hearing Dec. 9—Efforts by Solicitor General Stanley Reed to secure a hearing on Nov. 20 before the United States Supreme Court on the Hoosac Mills cotton processing tax case has been denied by the court which instead will hear this historic case Dec. 9; that date also is the date for the Bankhead Cotton Act case hearing.

James H. Dunham & Co., New York, converters and distributors, will move to new quarters at 345 Broadway on or about Dec. 1. This move marks the eighth expansion since the company was founded 108 years ago.

Introducing a Competitor—Callaway Mills has just published the first issue of *News and Notes*, a house organ, which will appear monthly and will be devoted to information of interest to the personnel.

Emery to Talk—Headlining the program for the North Carolina Cotton Manufacturers Association's 29th annual convention to be held Nov. 21 and 22 at Pinehurst, N. C., will be James A. Emery, general counsel of the National Association of Manufacturers, who will talk on "The trend of Federal legislation and its relation to the textile industry."

COTTON IN THIS ISSUE

	page
Murchison, New Head of Cotton-Textile Institute	71
Profits Suggested as Possibilities at C. T. I. Meeting	72
Social Security Discussion at N. A. C. M. Convention	74
Power—How Much Does It Cost You?	77
Japan's Cotton Mills Rated on Efficiency	80
AAA in Position to Aid Cotton Goods Exports	82
For Better Cotton—Coordinated Research	86
Quality Yarn Stressed in Modernization	88
Spinning Wins Over Football at Greenville	95
Galaxy of Cottons and Rayons for Men Next Summer	99
Cotton Wraps Spinning Roll	110
Powder Puff Industry	110
Sheet Packing and Finishing Press	114

Cotton Mill News

Muscogee Mfg. Co., Columbus, Ga., recently installed a new 1,000 lb. double-circulating raw-stock dyeing machine manufactured by Morton Machine Works, Columbus.

Watatic Spinning Mills, Inc., Fitchburg, Mass., recently organized by Frank W. Lyman and M. F. Thoma, officials of the Fitchburg (Mass.) Yarn Co., with capital of $300,000, have concluded arrangements for acquisition of former local **Orswell Mill**, and will occupy for new plant. Plant will be developed to a total of about 10,000 spindles, giving employment to 200 operatives. Mr. Thoma will be president of new organization, and Mr. Lyman, vice-president and treasurer.

Whittenton Mfg. Co., Taunton, Mass., plans concentration and modernization. Some machinery will be sold. Single-process pickers and long-draft spinning will be installed. Plant will employ about 1,000 when revamped.

Margrace Mill, Kings Mountain, N. C., has bought modern spraying equipment from Borne Scrymser Co.

Bloomfield Mfg. Co., Statesville, N. C., idle for the last five years, is preparing to resume operations as soon as overhauling and repairing of machinery is completed. **W. M. McLeod**, of Cherryville, N. C., is general superintendent, assisted by **H. L. Mayberry**, of Statesville, N. C. Both of these men are affiliated with the Rhyne-Houser interests of Cherryville. The mill is owned by Abernethy-Houser Co., a new concern recently chartered at $100,000.

Springs Cotton Mills, Lancaster, S. C., is constructing a new weave shed in which, it is understood, 700 looms will be installed.

Wade Mfg. Co., Wadesboro, N. C., have replaced old type with new single type spraying equipment furnished by Borne-Scrymser Co.

Esmond (R. I.) **Mills** suffered damage of about $15,000 when fire broke out in the cotton mixing room on Oct. 28. The fire did not, however, retard the current operation of the plant.

Lockmore Mills, York, S. C., owned by Textiles, Inc., recently resumed operations after having been idle for 17 months.

Cotton Financial Notes

Opelika (Ala.) **Mfg. Co.**, was sold Nov. 2 to Col. T. D. Sanford and associates for $25,000, subject to approval by the court in bankruptcy proceedings.

Dale Cotton Mills, Ozark, Ala., was sold in bankruptcy proceedings on Nov. 3 to Cowikee Mills, Eufaula, Ala., for $20,450.

Wellington Curtain Co., Inc., Putnam, Conn., has incorporated to manufacture curtains. Frank B. Wellington and Joseph A. Mahoney head the company, which begins with $6,000 paid in.

Meritas Mills, Columbus, Ga., have been listed for sale by the New York owners. No sale had been completed up until Nov. 2.

The Bibb Mfg. Co., Macon, Ga., lost $251,837.52 during the last year, the first time in its 24 years of existence it has operated at an annual loss. W. D. Anderson, chairman of the board, attributes the loss to the recent textile strike and adverse business conditions.

Lincoln Webbing Co., Inc., Brockton, Mass., has been incorporated with capital of $20,000, to take over and operate company of same name, with local mill at 144 Hayward Ave. Arthur W. Smith is president of new organization, and Arthur M. Smith, treasurer.

Luther Mfg. Co., Fall River, Mass., shows an operating loss of $13,000 for the 12 months ended Sept. 28.

Otis Co., Three Rivers, Mass., has ceased manufacturing and will close its mills as soon as stocks have been shipped out. Plans for disposing of the property have not been disclosed.

Hudson Yarn Co., Inc., Newburgh, N. Y., has been incorporated with capital of $20,000, to operate a local mill. Incorporators include Augustus W. Bennet and Frank L. Luce, 44-46 Smith St., Newburgh.

Seneca Textile Co. reports for year ended July 31 a net profit of $222,715 compared with net profit for previous year of $228,842.

Ozark Mills, Gastonia, N. C., was recently sold to bondholders for $75,250. This included 1935 taxes which were specified not to exceed $50,000.

Pickett Cotton Mills, Inc., High Point, N. C., was enabled to resume operations recently upon approval of a $180,000 RFC loan.

Nason Mfg. Co., Wadesboro, N. C., has been organized by Thomas C. Cox, W. T. Rose and R. E. Little, Wadesboro, to take over former local plant of the Wadesboro Cotton Mills Co., recently acquired at a public auction.

Potter Fine Spinners, Inc., Pawtucket, R. I., has been taken over for liquidation by Jacob Ziskind, of Crescent Machinery & Supply Co., Fall River, Mass. Plant comprises 33,000 spindles specially designed for fine yarns. It was built in 1922. There is said to be some chance of the plant's being sold as a unit.

Irene Mills and **Irene Finishing Works**, Gaffney, S. C., were recently sold at auction for a total of $32,035 to C. L. Chandler, general manager and vice-president of Jackson Mills, Welford, S. C.

Brandon Corp., Greenville, S. C., reports for year ended Aug. 31, a net loss of $216,012 compared with net profit of $367,752 for previous year.

TEXTILE WORLD'S

Wool Digest

APPARENTLY the average worsted manufacturer doesn't have to worry, as yet, about the competition from Japan. It is agreed that the fabrics brought in from that country compete in the high price range only—and with British goods rather than domestic.

But that doesn't mean that the possibilities of this trend should be dismissed. The Japanese, once they enter a field, must always be reckoned as a potentially strong competitor. There is no reason why, in this instance, they cannot swing over to the low end. True, the tariff makes the going harder in the low than in the high brackets, but it does not make it impossible. Furthermore, the Japanese have concentrated on cheap goods in other fields and may be expected to swing that way in this.

At any rate, a little careful watching won't do any harm.

—*Editor.*

Women's Wear Buyers in Wool Goods Market

Battle wages hot on the terms issue between buyers and sellers of women's wear. Buyers seek the larger discount of yesteryear, which went out the door with other loose customs when NRA gave the primary market a chance to put its house in order. Sellers in great majority stick to the approved terms of 1% 10 days, net 60.

The difference of opinion should have been settled by a vote taken by the National Association of Wool Manufacturers early in October, which, although showing an increase in sentiment to meet the buyers' demands, still showed too great a majority in favor of the standard terms to warrant any change. This democratic effort has been met with something smacking of boycott since the Industrial Council of Cloak, Suit and Skirt Manufacturers was reported on Oct. 23 to have passed a resolution calling on members to refrain from purchasing woolens for the present unless granted their discount. This resolution asked that such a policy be followed until "further opportunity has been afforded for inducing mills to reconsider their determination to adhere to net terms." It is understood that buyers seek a return to 6% 10 days, 60 extra.

Further side-light on the situation is belief in some quarters that this agitation on the part of buyers is a dress rehearsal for an attack on the f.o.b. mill provision of the standard terms.

•

Substantial Strength in Wool Goods Market

General strength continues in both men's wear and dress goods markets. Scattered advances of 5 and 10c. per yard continued through September, bringing figures 20 to 25c. above spring opening levels. Fill-in business for spring continues and spot interest on fall goods centers on overcoatings on which it is said mills may run to Dec. 1. Buyers' anticipation of higher levels is so definite that they are said to be picking up some current fall goods with the purpose of carrying them over into the 1936 season. Retail sales of men's and women's clothing during September and early October showed gains of 5 to 25% over a year ago. Clothiers' sales to retailers are reported up 25%.

Women's wear spring lines are moving slowly, but lines for the winter resort season are in full swing and new prices on white coatings are 10 to 15c. above last season. Flannels have been active with especial attention being paid them by bath robe manufacturers.

Unofficial estimates early last month placed unfilled orders of mills at 30,000,000 yd. said to be 10 weeks' production at present high-pressure rate of machinery. With allowance for business which is coming in from week to week, present rate of machine activity should continue for at least four months.

•

Wool Stocks Down 18%

The quarterly wool stock report issued by the Bureau of the Census on Oct. 15 as of Sept. 28 showed a total of 156,102,000 lb., scoured basis, of apparel wools in hands of dealers and manufacturers. This compares with 141,923,000 lb. as of June 29, and 192,345,000 lb. as of Sept. 29, 1934. The gain since June is seasonal and comparison with a year ago shows a reduction of 18¾%. It is notable that in this change dealers' stocks have dropped over 45% while manufacturers stocks have actually risen by 56%. In current stocks combing wools amount to 111,606,000 lbs. scoured basis, while carding wools amount to 44,396,000 lb. Foreign wools amount to 12,769,000 lb. of combed and 6,079,000 lb. of carding.

Carpet wools in stock Sept. 28, totaled 36,425,000 lb., scoured basis, of which manufacturers held 33,346,000 lb. of the total combing wools included 3,423,000 and carding wools 32,527,000 lb.

Besse on Compliance

In a letter by Arthur Besse, president of the National Association of Wool Manufacturers, to Major Berry, Coordinator for Industrial Cooperation, Washington, accepting the latter's invitation to join a series of possible conferences on standards of industrial practice, Mr. Besse says:

". . . It would be extremely helpful if some procedure could be worked out within the confines of the Constitution whereby the Federal Government would have power to force a small uncooperative minority to abide by proposals voted or adopted by the majority of the industry after submission to some duly qualified governmental agency. . . . The problem today remains what it was . . . when the NRA was functioning, namely, to provide some means of securing compliance on the part of a recalcitrant minority . . . To my mind this is the crux of the whole situation. . . ."

•

Retailer Does $120,000 in One Day on $11 Suits

Hearn's in New York, held a three day sale beginning Oct. 10, at which men's clothes at $11 were featured. It was reported that sales the first day in 13 hours of selling by a staff of 150 clerks and 60 packers topped $120,000. The sale surpassed a similar event held around Columbus Day last year. A sale in the following week of women's and misses' coats at $16 brought a large attendance. A sale of students' overcoats at $9.70 on Oct. 26 met with only fair response.

•

Tops at 18-Month High

Wool tops made a sharp rise in the last week of October which culminates a period of steadily rising values. The basis reached by spots on the exchange, 98c., was the high point for 18 months and optimistic traders expect the commodity to go over the $1.00 mark before long. It touched $1.00, Nov. 8. During October spots had been firm at 96c. Futures rose from about 92c. to about 94½c. during the month.

•

Much Better Tone for Reworks

A better month has been recorded in the reworked wool market. After a long period of expectation, better demand and better prices have come into sight. Stocks in dealers' hands are not excessive and the rate of duty (18c. for old stock) makes imports ineffective at present in increasing the supply. There has been call for light hoods at 26c. and white stocks at 39 to 40c. Fine light merinos advanced from 21c. early in October to 24 to 25c. at the end of the month. Coarse light merinos at 15c. were up 2 to 4c. for the month. Graders own most of their softs at 11 to 12c. while the current basis is 16 to 17c., so that the more active trend holds possibilities of bringing them profit for their season's work. New sweater clips, which for fine white, range up to 67c., have been in demand and some importations made.

Mohair Outlook for 1936

There has been improvement in the mohair situation during 1935, according to the Bureau of Agricultural Economics, Washington. The outlook is more favorable than at any time since 1930. Consumption of mohair during 1935 has been large; there has been a sharp advance in prices; stocks from previous years' clips have been considerably reduced; Angora goat numbers have declined; and feed supplies in the mohair-producing States are plentiful.

Boston prices on medium sorted hair which were around 30c. early in 1935, went over 55c. last month, and kid hair, which was 58c., passed 70c.

•

Activity of Industry

Current statistics on wool consumption and mill activity follow, the activity percentage being based on single 40-hour shift, 5 days per week. August figures are based on four-week period and September on five weeks.

	August	September
Wool consumed, clean equiv.		
Apparel wool	26,592,000	28,995,000
Carpet wool	9,324,000	9,475,000
Looms (50" wider)	107.5%	98.7%
Carpet looms	76.1%	65.9%
Combs	137.8%	139.9%
Worsted spindles	83.1%	83.1%
Woolen spindles	132.5%	124.3%

•

Wool Industry Briefs

Ernest C. Morse, general director, Associated Wool Industries, in speaking at the luncheon meeting of the Philadelphia Wool & Textile Association on Nov. 1, said, "Wool has never been seriously threatened as a commodity by any substitute or successor. Wool is today, as it has been for generations, the most irreplaceable of fibers."

National Association of Woolen & Worsted Overseers held its annual meeting on Nov. 16 at the Westminster Hotel, Boston, Mass.

Artloom Corp., will organize its own sales department for distribution of its rugs to the retail and wholesale trades, effective Dec. 1. The sales department will be under the direction of Edward A. Haggenmuller who previous to his connection with Artloom had been general sales manager for Alex. Smith & Sons Carpet Co., and eastern sales manager for Mohawk Carpet Mills. For the last four years Artloom has sold its rugs through Parker-Wylie Carpet Co.

Greater volume in the higher-priced suits is forecast by clothiers' plans to lift a good share of ultimate consumers into higher price brackets. As an example Hickey-Freeman Co., Rochester, is stressing not only the $50 market but lines to retail at $60, $65 and $75.

Plain extra trousers are said to be a coming vogue for wear with a fancy suit.

Kenwood Mills notified their trade that no further orders on No. 95 Arondac blanket could be taken until Dec. 1. Other mills were reported to be selling more blankets than they were producing and stock goods at first hands were about cleaned out.

WOOL IN THIS ISSUE

	page
Anthrax Is Preventable by Wool Sterilization, etc.	78
Japan's Woolen and Worsted Industry Statistics	80
D-13 Passes Woolen and Worsted Yarn Tests	84
Alkalies and Wool—Economy in Scouring	87
Woolen Mill Installs Humidification System	93
Analysing Fiber Mixes	111

Wool Mill News

Olson Rug Co., Chicago, Ill., has filed plans for new one-story addition, 66x90 ft., for which general contract recently was let to Lundoff-Bicknell Co., 100 North La Salle St. Cost about $30,000, with equipment. Weiss & Niestadt, Fischer Building, Chicago, are architects.

Sullivan Blanket Co., Newtonville, Mass., has acquired special machinery for manufacture of blankets by a special process. The machinery comes from Bloomfield, N. J., where it had been operated by the Caro Cloth Corp. The fabrics are made by a punching process and are 70% wool.

Ware (Mass.) **Woolen Co.** has let contract for altering and constructing one and three story brick additions at cost of $28,500.

State Administration Board, Jackson, Mich., will establish a woolen mill to make goods for other state institutions. Cost is estimated at $85,000.

Plymouth (Mich.) **Felt Products Co.** has awarded general contract to Fullerton Construction Co., 11733 Russell St., Detroit, Mich., for new one-story mill, estimated to cost over $25,000, with equipment. I. M. Lewis, Inc., Ford Building, Detroit, is architect.

Fulton (N. Y.) **Mills of American Woolen Co.** have installed 50 new looms in Mills No. 1 and No. 2.

Warrensburg (N. Y.) **Woolen Co.,** which recently leased a section to the **Mohegan Woolen Mills,** are operating in full on fall and winter goods.

F. C. Huyck & Sons, Rensselaer, N. Y., has construction under way on two large warehouses which will be used for storage of raw wool.

Canterbury Mills, Tilton, N. H., recently acquired by new interests, have resumed operations. Improvements have been made at the plant. George T. Lincoln will continue as manager of mill under new ownership.

S. E. Hyman Co. manufacturer of automobile fabrics and accessories, Fremont, Ohio, has awarded contracts for construction of a 2-story addition to its plant in that city.

Centredale Mill, North Providence, R. I., recently taken over by Lister Worsted Co. has reopened after three-year shutdown.

Verdun Mfg. Co., Woonsocket, R. I., has begun work on new branch mill at Bahia Blanca, Argentina, South America, and will develop for large capacity. It is reported to cost in excess of $100,000.

London Mills, Sumter, S. C., have been sold to H. London & Co., New York. Only minor changes will be made.

Badger Worsted Mills, Grafton, Wis., have let general contract to Radtke Construction Co., Cedarburg, Wis., for new one-story mill addition, 30x50 ft.

State Prison Board, Cheyenne, Wyo., has authorized installation of a new woolen mill at State penitentiary at Rawlins. A new one-story building will be erected. The output of woolen goods will be used entirely by the institution.

Slingsby Mfg. Co., Brantford, Ont., has added a new department to its mills to produce auto upholstering fabric. The Ford Motor Co., of Canada, has placed a substantial order with the firm.

Kenwood Mills, Ltd., Arnprior, Ont., have begun construction of new three-story and basement addition, 75x80 ft., for which general contract recently was let to Sullivan & Son, Ld., Ottawa, Ont. Cost estimated over $50,000, with equipment.

•

Wool Financial Notes

Limerick (Maine) **Mills** and associated property have been sold to the Limerick Yarn Mills, a Maine corporation, which has been operating the properties under lease since 1933. The purchase price, which is for the account of creditors of the old company, was $250,000 of which $50,000 was paid in cash and the remaining $200,000 in notes secured by a first mortgage. Chester A. Jordan, of Portland, is president of the purchasing company.

Goodall Worsted Co., Sanford, Me., on Nov. 1 paid its first dividend since 1931. It amounted to $1 a share. Advance orders for 1936 are coming in with sensational volume, Col. William N. Campbell, president of the company, announces.

Hamilton Woolen Co., Southbridge, Mass., has filed notice of company dissolution under State laws. Mill and equipment of company has been sold.

Botany Worsted Mills, reorganization plans will be submitted to Federal Judge Fake in Newark, N. J., Dec. 9.

Garfield (N. J.) **Worsted Mills,** once a prominent women's wear producer but closed for several years, has been taken over by the city of Garfield in tax foreclosure.

New England Rag Conversion Co., Cohoes, N. Y., has filed a petition of bankruptcy.

Firth Carpet Co., Firthcliffe, N. Y., has filed notice of change in capitalization from $4,615,000 to 72,500 shares of stock, no par value.

Chautauqua Worsted Mills, Jamestown, N. Y., have filed notice of change in capital from $600,000 to $208,000.

National Worsted Mills, Inc., Jamestown, N. Y., have filed notice of increase in capital from $250,000 to $500,000.

Keystone Spinning Mills Co., 1631 North 2nd St., Philadelphia, was offered at liquidation sale Nov. 12. Property comprises complete carpet-yarn mill.

Brookholm Worsted Mills, Inc., Providence, R. I., has been placed in hands of D. H. Morrissey as temporary receiver.

Dominion Woolens & Worsteds, Ltd., Toronto, Ont., and elsewhere shows a net loss for the year ended June 30, of $224,007.08.

TEXTILE WORLD'S

Rayon Digest

FOR 15 years there has been more or less conversation concerning the possibility of cultivating a substantial and permanent export market for synthetic yarns. We indulged in some of this conversation in the early days of the rayon impetus, as we believed then—and still do—that such an additional outlet is a handy thing to have around the house in this type of industry. We drew our creed from the synthetic dye industry.

On the whole, not much concrete progress has resulted from this talk. It is true that some gains have been made but export shipments of rayon yarn still represent a rather negligible factor.

Consequently it is encouraging to learn that a few far-sighted executives in the industry are making quiet but comprehensive studies of the possibilities of developing rayon exports at the quality end. The last four words are important. Obviously it would be foolish for American producers to attempt to compete with Japan in inferior rayon. But this country produces the best quality yarn and the quality branches of foreign markets represent a promising outlet.

However time is an important element. Only this month two new countries have started their first rayon plants. The picture, generally, is changing rapidly. It merits scrutiny right now.

—*Editor.*

Yarn Continues Active; Price Rise Coming?

Rayon activity in October was considerably below September but continued high, according to figures compiled for most of the industry by the *Rayon Organon,* which put October activity at 494 index against 583 in September. Reports in the market indicated that demand was very uneven during the month recently closed; some producers claimed a volume equal to September, while others said orders had shown a decided drop, in recent weeks.

Price tone remained very strong and there was considerable speculation as to the possibility of another advance in the price of viscose yarns. Considering the backward state of shipments, and the fact that some orders which were placed before the first rise have not yet been delivered, the prospects for an early second rise are not too strong.

•

F. T. C. Hearings To Be Reopened

The growing impression in rayon circles that the Federal Trade Commission was inclined to quietly drop the case against the 10 viscose yarn manufacturers, was rudely dissipated Oct. 21 with the official announcement that the Commission would reopen its hearings in this case shortly in New York City. John W. Addison, commission trial examiner who presided at the hearings last spring will continue in that function. The manufacturers are accused of violating the anti-monopoly laws. As one of the firms reported to have been interested in the complaint had recently effected a settlement of its difficulties with one of the defendants the trade had been of the belief that the Commission would let the case die.

•

Viscose Labor

Conferences were begun between officials of the Viscose Co. and of the United Textile Workers regarding the union's proposed agreement which would provide for a pay increase and for the formation of a Viscose Workers Council to embrace employes in all plants. It was announced Oct. 25 that the union had decided to order a strike vote among the 20,000 employes of the Viscose Co.; the main issue is the union's claim that the firm discharged men for union activity.

It was understood that the October conferences covered the situation at the Viscose Co.'s cotton linters pulp plant at Nitro, S. C., where 109 union workers were made idle by the closing down of the plant. At the time of the shutdown W. A. B. Vivian, superintendent ascribed it to two causes: First, that the plant is being overhauled; second that the firm's consumption of cotton linters pulp had to be restricted because the lower and more stable price of wood pulp gave the latter an advantage over linters for rayon manufacture.

•

Congo Cloth Promotion

Brand & Oppenheimer, Inc., have prepared a comprehensive and attractive portfolio for retailers, featuring the promotions planned for Congo Cloth, woven of Du Pont spun rayon for men's summer clothing. Striking displays are included in the promotional material.

•

Japan Maintains Rayon Profits

The low labor costs in the Japanese rayon industry have served to offset the sharp drop in prices, with the result that profits for producers still remain at a healthy level. Figures compiled by the British *Textile Recorder,* show the profits of six major companies for the first half of 1935 as follows:

	Profit Yen	Profit rate %	Dividend %
Teikokn Jinken	5,856,000	41.2	18
Asahi	5,231,000	32.1	10
Toyo Rayon	3,187,000	36.4	15
Nippon	1,716,000	22.9	12
Kurashiki	4,535,000	38.7	20
Tokyo	354,000	19.8	10

Somewhat less satisfactory, however,

Photo by C. S. Bull

Cellophane and textiles are effectively harmonized in this gray and white Directoire bedroom, designed by Cedric Gibbons and his associates, E. B. Willis and Joseph Wright, for the new Metro-Goldwyn-Mayer picture, "No More Ladies.

is the average profit showing since 1932 of five leading firms, which average is given as follows:

	Profit Yen	Profit rate %	Dividend %
1932, first half	6,703,000	23.4	7.5
1932, second half	9,274,000	52.0	8.4
1933, first half	18,725,000	59.2	18.3
1933, second half	23,471,000	50.3	14.4
1934, first half	30,375,000	56.5	17.3
1934, second half	24,318,000	46.0	16.0
1935, first half	20,525,000	35.1	14.9

The Japanese Rayon Association made known at Yokohama last month that curtailment of production will be extended through to December, a 20% cut being ordered for the final quarter.

•

Rayon's Progress

The Census of Manufactures 1933 which has just been published offers rayon statistics in two groupings — rayon and allied products, and silk and rayon goods—which show strikingly the increasing popularity of rayon since 1927. In the yarn industry the number of plants rose from 19 to 34. The total of wage earners rose from 26,341 (wages $28,649,000) to 44,306 (wages $38,613,000). Value added by manufacture in the yarn industry rose from $84,141,000 in 1927 to $112,900,000 in 1933.

The silk and rayon goods figures are not a true index of rayon's position in woven goods because of absence of the very considerable cotton branch. However, several trends are significant. The dollar value of all-silk ribbons fell from $4,444,000 in 1929 to $2,096,000 in 1931 and to $900,000 in 1933. Spun rayon yarn output rose from 912,000 lb. ($964,000) in 1929 to 1,342,000 lb. ($1,148,000) in 1933.

•

Industrial's Net Off

The high cost of the strike which closed the Cleveland plant of the Industrial Rayon Corp. for the better part of last summer is reflected in the firm's financial showing. Industrial reports net profits of $155,707 for the third quarter which brings the nine months' earnings to $415,919. This compares with a net profit of $1,208,524 in the first nine months of 1934. However, the current third quarter is appreciably better than the same period last year which reported a profit of $129,182.

•

Fabric Prices Weak

Woven rayon fabrics shared the slump which registered during the latter part of October throughout the broadsilk field. Cutters were in definitely bargaining mood as regards any type of yard goods.

•

Bemberg Price Rise

Price increases of one to five cents, effective Oct. 21 on 200, 250 and 300 denier Bemberg yarns were announced by Dr. W. Schlie, sales manager, American Bemberg Corp.

Revised quotations on these sizes, converted, with the old prices, follow:

Deniers	*Old Price*	*New Price*
200/135 filaments	59c.	60c.
250/180 filaments	55c.	56c.
300/224 filaments	51c.	56c.

RAYON IN THIS ISSUE

	page
Rayon Weavers Approve 6-Point Program for 1936	82
When Warp Is Out Fixer Should Check Loom	83
D-13 Discusses Home Economics ond Simplification	84
Recovery Reduces Costs in Soaking Rayon	92
Galaxy of Cottons and Rayons for Men Next Summer	99
Rayon Warps Break on Loom	111
Draperies Shrink	111
Fabric Conditioning Machine	115

Foreign Flashes

Spun Rayon Suits in Berlin—An exhibition of "Clothing of the Gentleman" in Berlin has featured shirts, suiting materials, lining fabrics and uniform cloths made of spun rayon, or "Zellwolle." The display contrasts the spun rayon suit with a paper suit of war times.

Business is Good, Thank You!—At the end of September, 98.3% of the rayon spindles in the United Kingdom were in operation. The percentage activity Sept. 30 was viscose 98.8; acetate 96.8; and cupra 92.5; of the total spindles installed it is estimated that viscose accounts for 83.6%; acetate 13.5% and cupra 2.9%.

Ban on Italy's Rayon?—An international banker was quoted recently as urging that the League of Nations in its sanctions against Italy include "such primary Italian products as olive oil, rayons and silks."

•

Industry Briefs

DuPont on the Air—The products and the prestige of the E. I. DuPont de Nemours & Co., and its subsidiaries including the DuPont Rayon Co., are hightlighted in a coast-to-coast radio feature, "The Cavalcade of America" which began last month.

New Bedford Gets Tubize License—John E. Bassill, president of the Tubize Chatillon Corp. announces that the New Bedford Rayon Co. has been granted a license to manufacture and sell yarns under the delustering patents controlled by Tubize.

An optimistic picture of rayon's future was painted by various speakers at the first of a series of rayon lectures given Oct. 18, at the New Bedford, Mass., Textile School. The speakers included Henry J. Viens, of the Lorraine Mfg. Co., Pawtucket, R. I.; C. R. Howe, vice-president of the T. C. Entwhistle Co., Lowell, Mass., and Robert B. Steere who presented the talking picture "Rayon" on behalf of the North American Rayon Corp. The notable advance made in simplifying yarn manufacture by improving rayon machinery was stressed by the first two speakers.

•

Rayon Mill News

Burlington (N. C.) **Mills Co., Inc.,** has taken over former No. 2 mill of Stehlisilks Corp., High Point, N. C., and will occupy at once for new branch plant. About 200 looms and auxiliary equipment will be installed. It is proposed to have mill ready for service this month. W. G. Reich will be manager at plant.

Blue Ridge Rayon Mills, Inc., Burlington, N. C., a Delaware corporation, have arranged for increase in capital from $100,000 to $200,000, for expansion.

DuPont Rayon Co., Ampthill, Va., plans to construct a small, brick addition to its present layout, work on which will begin within the next two months.

Covington (Va.) **Weaving Co., Inc.,** recently incorporated with capital of $175,000 by officials of the **Burlington** (N. C.) **Mills Co., Inc.,** operating a plant at first noted place on McCurdy St., has concluded arrangements for purchase of former Covington mill of Schwarzenbach-Huber Co., and will occupy for new plant for weaving of rayon specialties. Operations will be placed under way at once, giving employment to more than 200 workers, which force will be increased to about 400 in near future. J. S. Love is president of new company and E. H. Wilkins, secretary.

Viscose Co. of America will spend approximately $100,000 for the construction of a caustic soda reclaiming plant and for enlargement of the company's processing department at Roanoke, Va., according to H. C. Neren, manager of the Roanoke plant. Contract for the caustic soda plant has been let to B. F. Parrott & Co., and construction is under way.

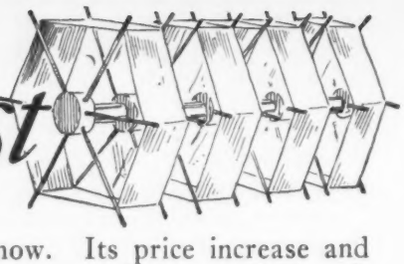
Rayon in Billion-Pound Class

The statement in the* Rayon Organon *that world output of rayon should total upward of one billion pounds in 1935 tallies with estimate in the Annual Rayon Year Book Number of* TEXTILE WORLD, *published in September. At that time, we set this year's world production at 960,000,000 lb. Since that estimate was based on data available through August only, and since there has been a further expansion subsequently, the additional poundage indicated by the* Organon *seems quite probable.

The entrance of rayon into the billion-pound class of textile fibers, which is exclusive and has only two other members, is an event of considerable significance.

TEXTILE WORLD'S

Silk Digest



SILK is at the cross-roads just now. Its price increase and the recent decline in its use by weavers raise a question-mark as to the future rôle it is to play in the Battle of the Fibers.

As usual, there are two schools of thought. One entertains the belief that silk must get back to low ground or suffer drastic —and possibly permanent—curtailment in consumption. The other feels that it is useless for silk to try to compete with rayon on the latter's own home-grounds—the low-price field—and that consequently the silk trade should cultivate the so-called luxury areas.

We subscribe to the latter school.

First, we agree with a statement made by a student of the silk market in these columns last month when he said that the use of silk in full-fashioned hosiery will not be curbed by $2, or even $2.50, silk. We know that some disagree with this—but our conviction is firm.

That leaves woven goods. Here, we do not believe that silk can compete in the low end unless a level somewhere around $1.00 is maintained. And that level we regard as uneconomic. (Here, too, you can get an argument from many quarters if you want one.)

It should be emphasized of course that we are not talking about eternity but about the relatively near future—say the next year or so. No one can tell what changes are going to take place in fiber uses over the broad future. But, for the more or less immediate outlook, we think the above is a fair bet.—*Editor.*

Parade Post-Mortem Cites 3 Big Gains

Detailed analyses of the results of the Silk Parade held in September disclose three main features, according to the International Silk Guild. These features are: (1) increased emphasis on quality merchandise; (2) much greater stress on pure silk ready-to-wear and accessories; and (3) a growing tendency to draw a sharp line between silk and rayon both in identification and in promotion. Guild officials report that the total of stores participating in the Parade was 25% above last year, and that advertising lineage also evidenced a big gain. Returns at the end of October showed the following line-up of States in advertising space devoted to the Parade: New York first; Pennsylvania and Texas tied for second; Virginia and Illinois tied for third; California led among the follow-up active States. Letters from stores to the guild generally stated that the best results of the 1935 parade were to widen the effectiveness of the promotion and to help toward volume business on high-priced lines.

•

Extend Throwing Pact

Plans for further extension of the wages-and-hours agreement which has been in effect in the throwing industry since the dissolution of the NRA were being actively pushed forward by the Throwsters Research Institute this month. It is indicated that most members are strongly in favor of such extension, though they have not yet expressed themselves on paper. Responses received by the institute show that the throwsters as a whole are determined not to allow labor conditions to fall back into the pre-NRA state. While details have not yet been settled regarding extension of the agreement, institute officials say the majority of the industry supports its purposes.

•

Peace Marks Newest Paterson Strike

What is coming to be known among cynics as "Paterson's Annual Strike" developed in the silk capital of New Jersey, Oct. 31, when the American Federation of Silk Workers ordered a walk-out of about 7,000 men in 500 broadsilk mills. The strike is claimed by the labor union to have closed 90% of the broadsilk looms of that area; the jacquards are not affected. The union demands a return to the 1933 wage and hour scale; contention by labor that wages have been cut is more or less conceded by manufacturers, who, however, insist that low wages in other silk areas give them the alternative of doing likewise or closing their plants.

Col. Frank P. Douglass, member of the National Textile Labor Relations Board, was sent to Paterson by Secretary of Labor Perkins to attempt arbitration. On Nov. 5 he returned to Washington; as he left he remarked that the situation seemed deadlocked because the union wants a group settlement, while the manufacturers, having dissolved their organization, the Silk Manufacturers Association, now can deal only as separate firms. Up to Nov. 6 the strike was the most peaceful Paterson has ever known; the cessation of fabric production has aided rather than hurt the market, because these mills had substantial surpluses on hand.

•

Weavers Find Silk Rise a "Freeze-out"

While the rising tide of raw silk prices continued through October—the month's gains totaled about 28c.—it must be noted that, when November opened, American factors, both buyers and sellers, were becoming openly critical of the advance. The first half of October found hosiery knitters covering normally and a few weavers still placing orders; as the month advanced the belief that Japanese silk interests were putting artificial energy into the "boom," gained ground and this feeling now is shared quite generally by both Japanese and American silk importers in New York.

As present, according to leading importers, weavers have dropped buying entirely; the ratio of silk consumption, which three months ago stood 60% hosiery and 40% woven fabrics, now is tending toward 100% hosiery. Sporadic orders come in from weavers of French crepes and satins for underwear fabrics and also from a few manufacturers of pure dye prints, but the total is negligible. The prevailing note in the market is that silk is now 15c. above its maximum selling price, and that demand from weavers will remain "frozen" until prices recede. Weavers are swinging definitely toward synthetics; there is doubt as to whether this lost business ever will be fully retrieved by silk.

•

Fabric Slump Slashes Prices

The optimistic expectations of broadsilk manufacturers for October proved to be sadly lacking of realization as the month advanced. Demand for most of the leading lines took a decided dip; retail movement of ready-to-wear had eased off, which was promptly reflected in a reduction of operations by the garment manufacturers. At the end of October leading broadsilk weavers complained that prices had fallen to the lowest point in some years; in certain instances they could not get more than 60 to 65c. for current lines made to sell at $1.15; the silk-and-acetate mixtures were especially weak. Stocks were rising in numerous mills.

The slump developed rapidly in the latter part of October and it precipitated two developments: (1) garment manufacturers curtailed current output; (2) they rushed to broadsilk mills for spring fabric samples, with the hope that by "beating the gun" on spring they might make up for current losses.

New Lousiness Test

After an extensive study of raw-silk lousiness—or exfoliation, as this defect is coming to be called—the U. S. Testing Co., Hoboken, N. J., has developed a new method of test said to be more dependable than previous methods. The test entails the preparation of test specimens from sample raw silk skeins, the boil-off of the test specimens, and the grading of the silk for the degree of freedom from exfoliation by comparison with exfoliation standards. The table below shows the classification of the silk based on the test:

Classification	Degree Freedom from Exfoliation
Perfect	100
Excellent	90
Good	80
Fair	60
Poor	40
Very poor	20
Zero	0

•

On the Up-and-Up

The rising trend of silk deliveries continued through October, this marking the third successive month of silk delivery increases. The October deliveries were 6.2% above the previous month. Key figures in bales follow:

	Imports	Approx. Deliveries	Stocks at Warehouses End of Month
Aug., 1935	46,442	41,715	37,381
Sept., 1935	46,455	45,156	38,680
Oct., 1935	56,264	48,167	46,777

•

Design Registration Gains 4% in 1935

Registration of designs for use in connection with woven fabrics have increased 4% so far in 1935, over the same period in 1934, it is announced by the Industrial Design Registration Bureau of the National Federation of Textiles, Inc. This increase is especially significant, it is pointed out, in that 1934 design registration was compulsory by law, while this year, since the dissolution of the NRA, it has been wholly a voluntary proposition. A statement by the federation comments that this shows "the industry's desire to regulate itself if it can without government action"; the point also is stressed that there are seven new firms submitting designs at present which were not among those submitting designs at the same time last year.

•

Mill Output Up 3.8%

Silk and rayon fabric activity, which had been backward in the fore part of October, picked up considerably as the month advanced; for the week ended Oct. 19, the National Federation of Textiles, Inc., reports an output rise of 3.8% and unfilled orders rise of 0.4% for all mills against the previous week; output was 6.4% above a year ago. Commission mills made a notable gain, their new orders rising 144.2% over the week ended Oct. 12.

SILK IN THIS ISSUE

	page
When Warp Is Out Fixer Should Check Loom	83
D-13 Hears Report on Tests for Consumer, etc	84
Aids to Better Flat Silk-Crepe Boil-off	97
Sample Books	114

Industry Briefs

Silk Featured in New Millinery—Among current Paris fashion data from Marjorie Howard is a note on the new millinery in which silk is emphasized. An interesting trend is reported in "a sort of Glengarry bonnet done in black velvet with a twist around the edge made of silk strips in red, blue, black, and yellow braided together."

R. K. Laros Silk Co., Bethlehem, Pa., has opened a southern office in the Johnston Bldg. at Charlotte, N. C., with Penrhyn Wilson in charge. Mr. Wilson has represented this firm of commission throwsters for a number of years.

Heineman Analysis Out—The analysis prepared by Oscar Heineman Corp. covering recent trends in raw silk has been mailed to that firm's customers and is exciting considerable market discussion. The study reflects the firm's viewpoint that raw silk will continue at high levels. The analysis also forecasts a shortage of raw silk.

Clifton Yarn Mills, Clifton Heights, Pa., has engaged Cecil W. Simpson, lately with Keystone Silk Mills, Williamsport, Pa., and opened a technical laboratory at 1450 Broadway, New York. Mr. Simpson has had broad experience in development of novelty fabrics, and the facilities of the laboratory are open for general consultation to all cloth technicians working on yarn and fabric problems.

Workers May Pay Cheney Taxes—With the aim of insuring their continued employment the workers who had been employed in the four Manchester (Conn.) spinning mills recently closed by Cheney Bros. are reported to have offered to pay the accrued taxes out of weekly earnings.

Reject Compromise—The 50 weavers who have been on strike at the National Silk Spinning Co. mill at New Bedford, Mass., voted to reject a compromise offer made by the company and to continue on strike until the company established the six-loom basis.

•

Silk Mill News

M. Salzberg Sons Co., Putnam, Conn., is moving looms and other equipment from Putnam to its mill in Central Falls, R. I. The company has experienced a series of strikes in Putnam.

Lawton Mills Corp., Plainfield, Conn., has installed 100 latest type silk looms to replace old equipment.

Haskell Silk Mill, Westbrook, Me., is being prepared for reopening after year's shutdown. Individual motor drive is being installed on looms and throwing equipment added. Electrical conveyors will be put in. Product will be dress goods and draperies. Oil burners have been placed in the boilers and there is a new humidifying system. Only high grade goods will be made.

Fulton (N. Y.) **Silk Mills Corp.,** will use part of fund of $100,000, recently secured as a loan from RFC, for alterations and improvements in equipment at mill, including machinery replacements.

Oswego (N. Y.) **Yarn Mills** has leased property to the **Brown Silk Co.,** of Paterson, N. J., which is moving equipment to that city.

Bloomsburg Silk Mill, Lock Haven, Pa., has placed order for an additional H-W rayon conditioner with Industrial Dryer Corp.

South Boston (Va.) **Factory Corp.,** ribbon manufacturer, has let contract to Allen J. Saville, Inc., Electric Bldg., Richmond, Va., for construction of plant at South Boston. Bryan & Terhune, New York, are the engineers.

Stuart (Va.) **Silk Mills, Inc.,** capitalized at $50,000, has been organized to manufacture silks with installation of 104 looms, 10 quillers and 8 winders. Charles E. Goldman, 6516 North Sixth St., Philadelphia, is president. Plant has opened with 16 operatives. Only the winding department has started up.

Silks, Ltd., West Toronto, Ont., have started up. K. Harriman is president of the firm.

Bruck Silk Mills, Cowansville, Que., are enlarging their plant by adding 25,000 sq.ft. floor space. They have received a 10-year extension on tax exemption.

•

Silk Financial Notes

Sidney Blumenthal & Co., and subsidiaries for the quarter ended Sept. 28, 1935, reported profit of $38,627 against profit of $7,138 for the preceding quarter and a net loss of $173,649 in the September quarter of 1934. The nine months of 1935 showed a net profit of $310,029 against $521,734 in the same period of 1934.

Century Ribbon Mills, Inc., and its subsidiary, **Century Factors, Inc.,** report for the nine months ended Sept. 30, 1935, a net profit of $69,357 compared with a net profit of $133,807 for the same period last year.

Belding Heminway Co., reports for nine months ended Sept. 30, net profit of $406,173 compared with $373,573 for the similar period a year ago.

Elk Silk Mills, Inc., New Bedford, Mass., recently organized with capital of $10,000, plans operation of local mill. Charles N. Serpa, 16 Masonic Building, New Bedford, is president and treasurer.

Concordia-Gallia Corp., Watertown, N. Y., has completed negotiations for sale of its property to a Paterson, N. J., silk concern, according to report.

Dan Silk Mills, Danville, Va., recently reorganized reopened Oct. 17.

TEXTILE WORLD'S

Knit Goods Digest

PUBLICATION of the manual "The Social Security Act Applied to the Hosiery Industry" represents one very concrete and helpful type of service which an association can render its members.

Our contacts with manufacturers have convinced us that knowledge regarding the details and implications of this important legislation is not too widespread. Even the vast amount of general comment that has been published has not filled the bill.

But when a manufacturer receives a study applied specifically to his own industry, and in the terminology of that industry, he has something he can get his teeth in, as the saying goes.

We are not surprised that the National Association of Hosiery Manufacturers got favorable reaction to it. It was—and is—a good job.—*Editor.*

Underwear Code Ready

The Underwear Institute announces that its voluntary code, which aims to preserve the basic features of the NRA, has been approved by the Executive Committee, and will now be presented to the industry for action. In an article entitled "Self-regulation or government regimentation?" in the *Institute News,* the Institute's publication, underwear manufacturers are urged to give the agreement "open-minded and careful consideration," keeping before them the fact that unless some such step is taken, the industry may have to accept "what appears to be the inevitable effort of the Federal Government to regiment industry." Promotion of the voluntary code will be in charge of George F. Earnshaw of the Earnshaw Knitting Co. It was announced Nov. 8 that underwear manufacturers in the Utica, N. Y., district had already signed the code.

•

All 3 Knit Branches Enjoy Good Demand

Summarized. the market situation in the three branches of the knit goods industry at the opening of November was as follows:

Hosiery — Deliveries have trouble keeping up with spirited holiday demand, and mills are well sold to end of year; buyers accept rising levels without debate and indeed they seem to expect further advances. Orders generally are well in excess of this time last year, and outlook for the quarter is good.

Underwear—Backward weather has impeded call for ribbed underwear, but despite this, there is a fair activity of merchandise generally. Men's lines, in all weights move better than women's. Underwear stocks had been a bit unwieldy in mid-October, but now are healthier. Medium and lightweight lines enjoy good demand. Prices are steady.

Outerwear—Fall orders are "falling into the laps" of salesmen in great profusion in certain outerwear divisions. October was an exceptionally active month; however, the final week saw a sharp drop in the higher priced lines of women's sportswear, due to the prolonged warm weather. The 1936 swimsuit lines opened Nov. 4 and early buyer interest was encouraging. At the beginning of the month the Outerwear Association issued a statement cautioning the knitters against "yielding to the temptation of piling up orders they cannot fill."

•

Social Security Cost to Hosiery Trade

The significance of the Social Security Act to hosiery manufacturers is described minutely in a 46-page booklet which has been distributed to the industry by the National Association of Hosiery Manufacturers. According to the figures cited, the owners and employees of hosiery mills jointly will contribute about $2,160.000 annually in the first three years from Jan. 1, 1937. The booklet is replete with salient features of the new act. Both mill owners and workers will pay 1% of the total payroll, which is $108,000,000 as reported by 616 companies employing 137,022 people. From 1940 to 1942 each division will pay 1½%, or $3,240,000; the percentage rises from 1943 until the tax from 1949 onward reaches 3%, or $6,480,000, based on 1934 figures.

More than half the total annual tax —$1,462,000—will be paid by the full-fashioned branch, while the seamless branch will pay $698,000.

•

Woolworth in 40c Line?

Much speculation and not a little concern was aroused in certain branches of the knit goods industry by the news that the F. W. Woolworth Co. had decided to test out the practicability of extending its lines to include 40-cent merchandise. The test is made in various branches in Canada and in the large branch in the Brisbane Building, Buffalo, N. Y. If generally adopted, the Woolworth knit goods competition hitherto restricted to the very low end, would be widened to affect firms making better quality lines in hosiery, underwear, and outerwear.

•

All Ready For Ringless Trial

Plans of the battery of legal talent for the opening of the ringless hosiery trial in the United States District Court, Monday, Nov. 25, were declared to be nearing completion early this month. The trial, which is expected to continue several weeks, will determine the validity of the patents granted to Charles A. Kaufman, Julius Kayser & Co., and assigned to the Textile Patents Corp. The "outside" group of hosiery manufacturers disputing the validity of these patents includes the Gotham Silk Hosiery Co. and other large firms; while the "inside" group embraces another impressive group, including Berkshire Knitting Mills.

•

Knitting Arts April 20-24

It is announced that the thirty-second Knitting Arts Exhibition will be held at the Commercial Museum, Philadelphia, April 20-24, under the joint auspices of the National Association of Hosiery Manufacturers and the Underwear Institute.

•

Propper-McCallum in Belding Merger

Among the highlight developments of October in the hosiery industry was the news that the Belding-Heminway Co., old-established broadsilk and hosiery house, which previously acquired the Corticelli Silk Co., another broadsilk and hosiery unit, would now take over the Propper-McCallum Hosiery Co. This project will be voted on by Belding stockholders Nov. 15 and by Propper-McCallum stockholders Nov. 12; affirmative action is taken for granted.

The chief significance of the consolidation perhaps is the fact that it increases the already large hosiery interests of Paulino Gerli, vice-president and general manager of E. Gerli & Co. Hosiery leaders, pointing out that Mr. Gerli is also a director of Julius Kayser & Co., argue that this is a logical move for a silk importer, considering that hosiery now is the chief market for raw silk.

Raymond Kramer, president of Belding-Heminway Co., will head the consolidated firm, which will carry the Belding-Heminway name. The selling organizations of Propper-McCallum will remain intact with the exception of Geo. B. McCallum, president, who will retire. The Propper-McCallum organization is capitalized at $1,500,000; the firm was born of a merger in 1930; it has mills in Massachusetts, Pennsylvania, and Long Island, New York.

Japanese Issue Bobs Up Anew

The issue of Japanese competition became a topic of spirited comment this month among leaders in the knit goods industry. Discussion was precipitated by the announcement that the hosiery, underwear, and outerwear products of Mitsubishi, Ltd., of Tokio, would be distributed in this country by Elmer H. Phillips. Mr. Phillips in stating that he had taken over the American agency for this firm with headquarters in New York, denied that the move meant increased Japanese competition in the knit goods field. He deprecated that aspect.

Mr. Phillips was answered respectively in the press by Earl Constantine, for the National Association of Hosiery Manufacturers; by Roy A. Cheney, for the Underwear Institute, and by Harold A. Lhowe, for the National Knitted Outerwear Association. They insisted that the Japanese competitive issue was far more serious than his comment implied, and that his plan to distribute Mitsubishi lines here might aggravate the situation further.

•

Xmas Is Coming!

Subscribers to the late lamented NRA hosiery code are to receive a refund of $93,000, which represents a balance remaining after final conclusion of the Hosiery Code Authority's affairs. This sum will be distributed on a pro rata basis. The net income of the authority during its lifetime was $290,000 and expenses were $197,000, leaving the surplus now to be distributed $93,000.

•

"Swim for Health Week" Planned

Plans for a national "Swim for Health Week" to be held June 22-29, 1936, were made known this month by the National Knitted Outerwear Association. The association is cooperating in the project with the National Association of Amusement Parks, Pools, and Beaches. The bathing-suit manufacturers will not contribute any funds directly to the campaign, but instead will buy dealer helps and such display material to give to their customers. The outerwear association's "Swim for Health Week" committee comprises: Bert E. Green, Revere Knitting Mills, Malden, Mass.; Sidney S. Korzenik, secretary of the association; L. Andrew Castle, of B.V.D. Corp.; Alfred H. Munkenbeck, Ocean Bathing Suit Co., and Herman Heller, president of the Knitted Outerwear Selling Agents Association.

•

Knitting Mill News

Camilla (Ga.) **Hosiery Mills, Inc.,** plans rebuilding portion of mill recently destroyed by fire, with loss reported at close to $20,000, including equipment.

Richmond, Ky.—Richmond Chamber of Commerce is said to be closing negotiations with a company manufacturing knit goods, name temporarily withheld, for establishment of knitting mill.

Cooper, Wells & Co., St. Joseph, Mich., has installed an H-W conditioner.

KNIT GOODS IN THIS ISSUE

	page
Bathing Charms at Their Best in 1936 Swim Suits	81
In Rib-Knit Fabric, Which Is the Face?	90
Sinker Cam Adjustment for Better Efficiency	94
Vertical Streaks in Hosiery	110
Defective Hosiery	111
Stitch Distortion in the Welt	111
Flexible Carriers for Full-Fashioned	114
Knitted Lay-in Patented	114
Hosiery Transfer Device Patented	115

Chipman-LaCrosse Hosiery Mills, Inc., East Flat Rock, N. C., has launched an expansion program designed to double the number of employes and to increase production of higher-grade hosiery, according to Harry E. Katzenmoyer, president and general manager. The building now occupied by Jones Motor Co., Hendersonville, N. C., has been leased as a branch plant to give 20,000 additional feet of floor space, and to bring daily production to 5,000 doz. prs. All machines in the plants will be 220, 240, 260 and 300 needle. Mr. Katzenmoyer, president of the Fisher Hosiery Co., of Reading, Pa., has recently been elected president and general manager of the Chipman-LaCrosse mills and Robert B. Cameron, formerly of Chipman Knitting Mills Co., Easton, Pa., treasurer and assistant manager.

Grenaco Knitting Mills, Rockingham, N. C., recently incorporated, will act as "commission knitters" for the May Hosiery Mills, Inc., Burlington, N. C., which will finish, dye and sell the men's socks made by Grenaco. Twenty-five machines are available.

Clarke Knitting Mill, Rutherfordton, N. C., has recently begun operations with 24 machines. The mill makes men's seamless half-hose.

Stanfield (N. C.) **Hosiery Mills, Inc.,** organized a few months ago with capital of $100,000, is now in operation at new local mill. The plant consists of three one-story mill units and boiler house, and is equipped with 22 hosiery machines and five loopers. W. H. Love and Brooks Jerome head the new company.

Century-Beverly Corp., Boyertown, Pa., closed for a year opened last month. Machinery removed to company's plant in Pottstown a year ago, has been brought back.

Wert Sweater Mills has been established at 3028 West Allegheny Ave., Philadelphia, Pa., under the management of Louis J. Wertlieb.

Nantex Co, Greenwood, S. C., occupying former local plant of Greenwood Hosiery Mill, plans early installation of new equipment to double present mill capacity, comprising about 125 new knitting machines and accessory equipment. Company also has plans under consideration for construction of new one-story mill unit on neighboring site on which it is proposed to begin superstructure early next year.

Rex-Tex Hosiery Mills, Chattanooga, Tenn., has been organized at 607 Market Street, and will engage in the manufacture of infants' hosiery. Machinery is being installed.

Dobson-Miller Corp., Pulaski, Va., will build an addition and install 40 machines to increase capacity to 500,000 doz. prs. infants' hosiery annually.

Virginia Knitting Mills, Waverly, Va., a new industry for the manufacture of woolen sweaters, has been opened. It employs 15 persons, and turns out 80 sweaters daily.

Scotsmoor Textiles Ltd., recently organized by A. G. Ditchfield, has purchased the plant of the old Milverton (Ontario) Furniture Co., where its head office and mill will be located.

•

Knit Financial Notes

Taunton (Mass.) **Knitting Co., Inc.,** has been incorporated with capital of 500 shares of stock, no par value, to operate a local mill. Company will take over and succeed to organization of same name with plant at 97 Ingell St. E. C. Williams is president; and Charles R. Hodges, treasurer.

Rudolph Knitting Mills, Inc., Brooklyn, N. Y., has arranged for increase in capital from $50,000 to $100,000.

Harris Silk Hosiery Co., Springfield, Mass, has been placed in the hands of Frederick Scarborough as temporary receiver.

Amsterdam (N. Y.) **Hosiery Co.** machinery, office furniture, etc., were sold at auction to Gordon C. Young for $3,000.

Lo-Bel Knitting Co., Garfield, N. J., has leased a 6-story, modern factory building containing 100,000 sq.ft. floor space for a long term.

Currie Hosiery Mills, Carthage, N. C., has been incorporated for $50,000 by W. H. Currie, E. W. Currie and G. P. Thomas.

Kramer, Hollar, Brown Corp., Hickory, N. C., has been organized with capital of $100,000, to operate one or more hosiery mills in this section. Company is arranging to take over existing properties. It is headed by W. L. Hollar, president, Hollar Hosiery Mills, Inc., Hickory; and P. J. Brown, same place, and T. R. Kramer.

Presiar Hosiery Co., Inc., Hickory, N. C., recently organized with capital of $100,000, plans operation of knitting mill in this vicinity. W. F. and D. W. Presler, Hickory, head new company.

Ravenna (Ohio) **Knitting Mills** have been bought from Frank Graiser by the Wizard Corp. of Chicago and the name changed to **Ravenna Mills, Inc.**

William Brown Co., Philadelphia, Pa.—Mill and machinery of this company at Kensington Ave. and Ontario St., will be offered at public sale by the receivers, Morris Cheston, James J. Connolly and William K. Shoemaker, on Nov. 20 and 21.

New Britain (Pa.) **Hosiery Co.,** has filed notice of change in company name to **Doyle Hosiery Corp.**

Parknit Mills, Inc., Providence, R. I., bathing suits, have been bought from the receiver by the Consolidated Sewing Machine and Supply Co.

Bristol (Va.) **Textile Corp.,** has been chartered to engage in manufacturing and selling knit and woven goods. Hunter H. Galloway, of Bristol, is president.

Damascus (Va.) **Hosiery Mills** have been incorporated for $25,000 by B. P. Murphy, president, and J. A. Blakemore of Abington, for purpose of manufacturing hosiery.

TEXTILE WORLD'S

Processing Digest

TWO moves have been initiated recently in connection with the purchase of dyes, chemicals, and supplies by the silk and rayon dyeing and printing industry. One was the reported centralization of such purchasing by about five of the largest firms. The other was the formation of a credit guaranty corporation to aid the smaller companies.

As we have pointed out previously, one of the important contributory causes of the chaos in the Paterson area is the poor credit rating of many of the finishing companies. In order to obtain the dyes and chemicals necessary to keep their plants running, a number of firms have found it necessary either to sell their accounts receivable to factors or to pay excessive prices for their supplies.

Although detailed plans of the credit group—which already has been joined by some 25 dyers and about the same number of supply houses—have not yet been made public, the basic idea is that the organization will act as a trustee, collecting accounts due to the dyers from their customers and from these collections paying the suppliers the amounts due them for dyes and chemicals.

It is not expected that this move will cure all the ills of the industry, but anything which tends to make more secure the standing of financially weak but otherwise sound units of an industry should react to the improvement of the industry as a whole.—*Editor.*

Strike Against Hosiery Finishers

Striking for increased wages, shorter hours, better working conditions, arbitration of disputes, and union recognition, employees in the hosiery finishing industry had the moral, if not active, support of full-fashioned hosiery manufacturers. Charges were made by officials of the American Federation of Hosiery Workers that differences of 35 to 50% existed between the wages paid by job finishers and by mills having their own dyehouses. Harassed by progressive price-cutting on the part of the job finishers, who had reduced the cost of finishing to about half that in unionized plants, the full-fashioned knitters—largely because of their self-interest in the matter—agreed that the union's charges were correct, and—privately, at least—hoped for the workers' success in obtaining more equitable wages.

The strike reached its climax a little after the middle of October and was practically settled as we go to press. Net results were increases in pay averaging about 25% and the raising of job finishing prices from the recent lows of 45c. a dozen to 60 and 70c. a dozen, as compared to a finishing cost of 90c. to $1 a dozen in mills having their own dyehouses. While the present differentials in wages and finishing prices are not entirely satisfactory to the union and the full-fashioned knitters, respectively, they concur in the belief that conditions are much better than they were before wage chiseling and price slashing were curbed.

Following walkouts in individual plants and the failure of negotiations between the finishers and the American Federation of Hosiery Workers, a general strike against some 30 plants in Pennsylvania was called on Oct. 18. Job finishers in New York and Pennsylvania were also closed down, union officials asserting that a total of 10,000 to 15,000 employees would be affected. From the first day of the strike, the union pressed its policy of signing separate agreements with individual companies and, on Oct. 24, announced that it had pacts with plants totaling 70% of the production in Philadelphia. Meantime (Oct. 22) both sides had accepted the offers of the National Textile Labor Relations Board to mediate the differenecs.

•

Silk Finishers Act to Stabilize Industry

One important feature of October in the silk and rayon finishing industry was the intensified effort to "get somewhere" in ending the present price chaos and disorganization in the industry. Various moves have been initiated to this end, but it is still too soon to see where they will lead. Formation of the Dye Print Service Corp., with offices at 1450 Broadway, New York, was announced; John J. Holder, president of Holder Dye Works, Inc., Paterson, N. J., is president, and the members include numerous finishers in that district. G. A. Wolff is executive secretary. The aim of this group is stated to be market stability, but details of the program have not been disclosed.

Plans for the new credit guaranty organization of supply houses and silk dyers went forward during the month; the task of developing the group has been placed in charge of a committee of three. It is reported that some 50 firms, about equally divided as to finishers and suppliers, have already said they intend to join the organization.

Another move reported late last month is an arrangement between some five or six of the largest finishers for the group buying of dyes, chemicals, and equipment.

•

Association Notes

The slate of candidates for officers of the American Association of Textile Chemists and Colorists was announced last month by the association's nominating committee. The candidates are: for president—Wm. H. Cady; for vice-presidents—Elmer C. Bertolet and Arthur R. Thompson, Jr.; for treasurer—William R. Moorhouse; for secretary—Harold C. Chapin; for councillors-at-large—Harold M. Chase and Arthur E. Hirst. Later Alban Eavenson was nominated for councillor-at-large by ten members.

Addresses by Dr. Wm. D. Appel on "Consumer Specifications and the A.A.T.C.C.," and by Dr. D. E. Douty on "Consumer Technical Information: Its Preparation and Distribution," featured the regular October meeting of the New York Section of the A.A.T.C.C. held Oct. 25 in New York.

The national meeting of the National Association of Textile Printing Colorists was held Oct. 19 at the Elks Club, Paterson, N. J. At the technical session Conrad Fry presented a paper on the subject, "Lacquer Printing on Silk, Celanese, and Rayon."

The Southeastern Section of the A.A.T.C.C. met Nov. 9 at the Piedmont Hotel, Atlanta, Ga. The program included a paper on "A General Outline of Textile Printing Methods," by S. I. Parker, of Ciba Co., supplemented by R. J. Nuttall, Lanett Bleachery & Dye Works, West Point, Ga. C. B. Ordway, chairman of the research sub committee, read "A Report of Progress of A.A.T.C.C. Mercerizing Program."

•

Cluett Peabody to Expand Sanforizing Campaign

The 1936 promotional program for Sanforized-shrunk merchandise will include advertising in consumer magazines with a combined circulation of 35,000,000, it was announced last month by Byron G. Moon, whose firm is handling the Cluett-Peabody account. Mr. Moon said the drive was expected to bring an increase of 200,000,000 yd. of Sanforized-shrunk in 1936. The advertising program includes 28 consumer maga-

zines, 10 class magazines, 15 trade magazines, and a number of newspapers. The campaign will be substantially greater than last year, both in the quantity of space and in the number of publications, he said.

•

Mothproofing Compounds

Two new mothproofing compounds have been announced recently by Flori Mothproofing Method, Inc., 252 South Broad St., Philadelphia. One compound, Flori A, is a colorless, odorless liquid intended for application by the spray method to articles which cannot be immersed in water. The other compound, Flori B, is colorless, water-soluble powder developed exclusively for mill application by either the standing-bath method or by the dye-vat or scouring-machine method. It is stated that these products give lasting protection against moths—fabrics after eighteen dry cleanings still being immune to attack—and that they do not affect the appearance, handle, or durability of the fabric.

•

Industry Briefs

Dr. Weidlein Honored—Dr. R. Weidlein, director of Mellon Institute of Industrial Research, Pittsburgh, was presented with the Chemical Industry Medal for 1935, at a meeting, Nov. 8, of the American Section of the Society of Chemical Industry, held at the Chemists Club, New York.

Shirtings Finishers to Raise Prices—Finishers of shirtings will advance their prices about Jan. 1, it is reported in the market. The industry now is operating nearly 100% of capacity and is sold ahead to the end of the year.

Crease - Resistant Linen — Reports of a new crease-resistant linen, called Flaxspun, became current this month. It is stated that Robert McBratney & Co. have developed a linen which resists crushing and has the same "give" as animal fibers.

Show Depicts Progress—The progress of chemistry will be depicted at the 15th Annual Exposition of Chemical Industries, which opens Dec. 2, at the Grand Central Palace, New York, and continues for a week. A feature of the exposition will be the section devoted to chemicals and chemical products. Other important divisions are plant equipment and materials-handling machinery and conveyors.

Cranston Retorts—When Stern Bros., New York, advertised a sale of 4,800 shirts with the statement: "No prints—because they're likely to fade with washing," Cranston Print Works retorted with an ad of its own, "Surely you didn't mean it—good printed shirting materials are as fast to washing as the best 'woven' goods."

Waterproofing — Warwick Chemical Co., West Warwick, R. I., announces that use of the waterproofing compound known as Impregnole is now covered by two recently issued U. S. patents (Nos. 2,015,864 and 2,015,865) and that purchasers of this compound are automatically licensees under the patents.

PROCESSING IN THIS ISSUE

	page
Alkalis and Wool—Cutting Scouring Costs	87
Modernization Move by Large Mercerizer	88
Recovery Process Reduces Chemical Costs	92
Practical Hints for Printing with Aniline Black	96
Presoaking of Silk Flat-Crepes	97
Hosiery Defect Due to Finishing	111
Cleaning Dye Tubs	111
Draperies Shrink	111
Sheet Packing and Finishing Press	114
Fabric Conditioning Machine	115
Compact Temperature Controller	115

Processing Plant News

Crystal Springs Finishing Co., Freetown, Mass., recently organized with capital of $40,000, will operate the former Crystal Springs Bleaching & Dyeing Co., Thwaites, Mass. Delphis V. Guillemett is president; and Alfred B. Lemon, 95 Chestnut St., Providence, R. I., treasurer and representative.

Pacific Mills, Lawrence, Mass., is completing the installation of 32 printing machines out of the 42 purchased from American Printing Co. This enlargement will give employment to 200 persons.

Century Textile Printing Co., Paterson, N. J., has been organized by Irving Rosen, Adolph Tannebaum and Arthur Navarro. It will operate four printing machines in plant at 25th St. and Third Ave.

Beacon (N. Y.) **Bleachery & Dye Works, Inc.,** has filed notice of change in company name to **Braendly Dye Works, Inc.**

Durocraft Corp., Rochester, N. Y., subsidiary of the Champion Knit Goods Co., will remove its plant and business to Perry, N. Y. The firm was recently organized to stencil numerals and designs on garments.

Bost Dyeing & Finishing Co., Burling-N. C., was damaged by fire Oct. 25 to the extent of about $25,000. The flames originated on the top floor.

Iredell Finishing Co., Charlotte, N. C., has been established by D. Van Horn to dye and finish hosiery with daily capacity of 12,000 doz. prs.

Quality Dyeing & Finishing Co. has been established at 363 East Price St., Philadelphia, Pa. Principals of the new concern are Edward Axford, George H. Burton and Ernest Burrell.

Valley Industries, Inc., Sayre, Pa., have awarded general contract to F. P. Case & Son, Troy, Pa., for new one-story addition to mill, to be equipped as a dyehouse. Cost over $100,000, including equipment. Lockwood Greene Engineers, Inc., New York, are engineers.

Franklin Process Co., Providence, R. I., has equipped all its plants with stainless-metal package-dyeing machines to obviate "saddened" shades which sometimes result from metallic action on dyestuffs.

Greenville Finishing Co., Smithfield, R. I., is beginning superstructure for new one-story brick and steel addition to mill on Putnam Ave., estimated to cost about $35,000. C. R. Makepeace & Co., Providence, R. I., are architects and engineers.

Union Bleachery, Greenville, S. C., has awarded contract for its latest 12,000 sq.ft. addition to Fiske Carter Co. Machinery is also arriving for Palmetto Print Works, which is to operate in connection with Union, but the addition referred to is not for the print works.

Rock Hill (S. C.) **Printing & Finishing Co.,** has let contract to Fiske-Carter Construction Co., Spartanburg, S. C., for new one and two-story addition, 100x500 ft., and 30x60 ft., respectively. Cost over $100,000, with equipment.

Powhatan Converting Works, Martinsville, Va., begins operations Nov. 15.

Milwaukee (Wis.) **Dye & Bleaching Co.** is now in new and larger quarters at 1657 North Water St. Plant is managed by Rudy Herfeld and H. D. Boswell, and specializes in dyeing yarn.

S. Lennard & Sons Ltd., Dundas, Ont., have added a two-story addition to its textile plant. The new wing provides 7,200 sq.ft. more of floor space.

•

Processing Financial

D. C. McAllister Co., Belleville, N. J., reorganizing under Sect. 77-B has been continued in possession of its assets by the court.

Hudson Textile Printing Co., Inc., Paterson, N. J., has been organized under New York laws with capital of $20,000, to operate a print and dye works in this vicinity. Incorporators include Walter G. Atchison, 222 Sall Ave., and Edward G. Weiss, 140 Market St., both Paterson.

Industrial Print Works, Inc., Paterson, N. J., recently organized, has taken over former local mill of **Strengs Dye Works, Inc.,** Jane St., bankrupt, and will occupy for print and dye works.

Lido Piece Dye Works, Paterson, N. J., is in hands of E. J. O'Byrne as receiver.

Ming Toy Dyeing Co., Paterson, N. J., has been organized under direction of Emanuel Shavick, 140 Market St., Paterson, attorney and representative, with capital of 1,000 shares of stock, no par value, to operate a local print and dye works.

Parisian Print Works, Haledon, N. J., has been organized with F. A. Salkowitz as president, and has taken over the plant of Bluebird-La Salle Dye & Print Works on Morrisse Ave.

United States Finishing Co.'s branch at Pawtucket, R. I., is to be discontinued and the machinery and personnel distributed among other plants of the company during the next two months.

Cohn-Hall-Marx Co., increased its earned surplus at the close of the fiscal year ended July 31, 1935, by $828,878 before dividends of which $741,949 was net profit, compared with $568,452 net profit for the preceding fiscal year.

TEXTILE WORLD'S

Engineering Digest

AM I paying too much for my power? This question has undoubtedly plagued every textile manufacturer at one time or another.

In an attempt to offer at least a suggestive answer, we publish in this issue (page 77) an article by Ralph E. Loper giving average or typical figures on power cost per pound for a number of representative fabrics and yarns. We believe that both mill executives and power-plant engineers will be interested in checking their own costs against the average for their type of product given in this article.

We should appreciate reactions from readers following the making of such comparisons.—*Editor.*

Determining the Right Amount of Oil

Textile operators often wonder whether the right amount of oil is being used and the answer is frequently difficult to obtain. The "stopping time" test, however, is an excellent way to determine if the lubrication is proper. The test is very simple. For example, if you want to determine whether a given steam engine is properly lubricated, pull out your watch, shut off the steam, and find out how long it takes the engine to come to a stop. Naturally the longer the better.

When steam is suddenly shut off, an equal amount of energy is dissipated every time the engine stops, and, therefore, with all conditions the same, an identical length of time will be consumed in stopping every time the throttle is closed. By noting the stopping time every night, and by altering the quantity of lubricant fed to the engine every day, the proper quality and quantity of oil can be determined.

If the engine drives machinery, try the stopping-time test with and without the load. Motor-driven, diesel-driven, and turbine-driven textile machinery can often be tested in the same way. The flywheel effect of pulleys and the machinery itself is sometimes sufficient to cause the machinery to operate for some time after the power is turned off. As long as there is a difference in stopping time, all other conditions being the same, there is a difference in lubrication. Obviously the thing to strive for is the longest possible stopping time.

S.N.

•

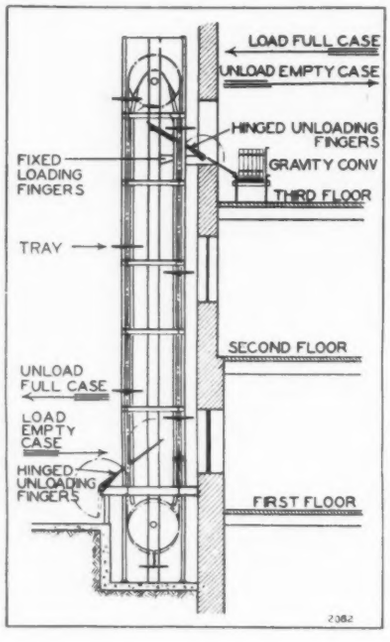
Acetylene Men Meet

Acetylene started out as a means of lighting and it was not until 1907 that the first paper on oxy-acetylene welding, which has become so commercially important, was presented before the International Acetylene Association, which has just held its 36th annual convention in Cleveland, Nov. 12 to 15. About 1928, acetylene entered another new field when investigations were carried out on its use as a basis for chemical synthesis. The convention just closed was packed with technical and discussion periods, and, by popular request, the play "Profits of Progress," which packed the house in Pittsburgh the year before, was again produced.

•

Ups and Downs

The Paul Whitin Mfg. Co., a fine-goods mill at Northbridge, Mass., took empty cases up to the third floor by the usual means of hand-truck and elevator, and then brought the full cases down again by the same methods. It all didn't seem logical, according to a report in the *Link-Belt News*, and finally the tray elevator illustrated was installed on the outside of the building.



The empty cases are placed on the loading fingers at the automobile platform and are automatically picked up by the ascending tray, carried up and around the head of the elevator, and automatically unloaded on a short roller conveyor on the third floor. In lowering filled cases, the unloading fingers for empty cases are swung out of position to permit the filled cases to be picked up, carried up and around the head of the elevator, and automatically discharged at the ground floor.

Top capacity of the elevator is 120 cases per hour, and packages weighing from 15 to 350 lb. can be handled. As the elevator is outside the building, although fully inclosed, no floor space is occupied.

•

New Rust-Proofing

Rust-proofing at low cost is claimed for Cromodizing, a new process developed by American Chemical Paint Co., Ambler, Pa. Any type of steel surface can be treated. The actual process changes the surface of the steel so that the surface currents that induce rusting are stopped. The metal is first cleaned, and, then dipped in a bath or sprayed with Cromodine for one minute. As the process changes the surface of the steel, the protection is as flexible as the steel itself.

•

Hard-Facing Textile Parts

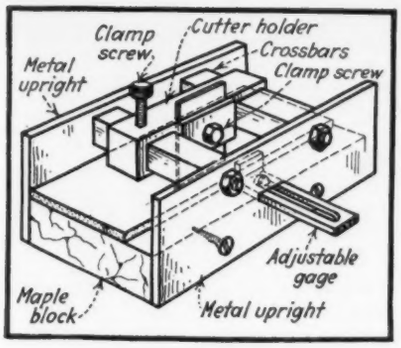
An eastern mill reports good results from hard-facing parts that are subject to wear with an Abrasion-resistant alloy. So far, winder trumpets, transfer guides, loom dagger rods, tension brackets, guide knockers, and bobbins have been treated, according to *Oxy-Acetylene Tips*, published by Linde Air Products Co. The alloy employed is Haynes Stellite and in many instances it is only necessary to use from a drop to a few ounces to provide the necessary wear-protection. Not only is there a saving because worn parts can be salvaged, but there is also the advantage that long-wearing parts result in more continuous operation of machinery.

One trick is that on small parts it is often advisable to use extremely small diameter hard-facing welding rod, but frequently such rods are not kept in stock. It is a simple operation, however, to "draw out" ¼-in. rod to ⅛-in. diameter or less. One end of the large-diameter rod is melted with regular excess acetylene flame, and the first drop is laid on a cold plate of carbon, graphite, or cast iron. With the welding flame playing steadily on the end of the rod and melting it, the rod is drawn away from the initial drop at a steady rate, leaving a thinner rod deposited on the plate.

•

Cutting Width of Belts Evenly

One of those aggravating tasks that turn up from time to time is the cutting down in width of, say, a 3-in. belt to 2¾ in. The maintenance man who faces such a job frequently finds it difficult to cut the sides so they are reasonably parallel. John A. Honegger, in *Factory Management & Main-*



tenance, suggests the use of the simple and inexpensive device illustrated.

The fixture consists of a maple block to which a metal upright is fastened on each side. Two crossbars are fastened to these side plates and a cutter holder slides upon the bars. The holder has a recess in which a blade is clamped and is adjustable so that any width may be cut from the belt. A clamp screw is used to keep the holder and blade in the desired position, and an adjustable gage guides the belt. In use, the device is placed in a bench vise so that it is rigidly held as the belt is pulled through.

•

A Rise in Belting

A rise of about 10% in leather belting prices before November closes is anticipated in reports of a recent meeting of the American Leather Belting Association in New York. The rise in hides and leather so far this year amounts to about 40%, none of which had previously been reflected in belting. The belting market is described as slow at present.

•

Engineering Trade News

Joseph T. Ryerson & Son, Inc., Chicago, have recently completed an addition to the Jersey City, N. J., plant, making available an additional 45,000 sq.ft. of floor space.

Worthington Pump & Machinery Co., Harrison, N. J., has announced a term-payment purchase plan which has been developed to enable purchasers of its products to take advantage of the provisions of the National Housing Act, as amended for industry.

Saylor Electric Products Corp., Detroit, Mich., is the new corporate name of the former Saylor Electric & Mfg. Co.

Griscom Russell Co., New York, announces the appointment of Farrell & Jones, Boston, as representatives in the territory.

Permutit Co., New York, through W. Spencer Robertson, president, announces that Henry W. Foulds has been elected vice-president of the company to correlate and direct all sales, promotion and advertising. Mr. Foulds brings to his new position 20 years' experience in selling. Assisting him will be L. S. Ferguson, manager of industrial sales; O. P. Harris, manager of domestic sales, and H. H. Wilkinson, advertising manager.

ENGINEERING IN THIS ISSUE

	page
Power—How Much Does It Cost You?	77
American Yarn & Processing Co's Modernization	88
Humidification Installation at Kezar Falls	93
Self-Cleaning Atomizer	114
Handy Light-Meter	114
Upright Variable-Speed Drive	114
Compact Temperature Controller	115
Air Meter	115
Portable Test Units	115
Sheaves for V-Belt Drives	115

Combustion Engineering Co., Inc., New York, has appointed Otto de Lorenzi as assistant general sales manager. Except for two years in the A.E.F. Mr. de Lorenzi has been with the company since 1916 in various engineering capacities. The Combustion Engineering Co. has appointed representatives for sale of its C-E stoker units as follows: Wilson Machinery & Supply Co., Lexington, Ky.; William Franklin, Buffalo, N .Y.; Industrial Combustion Co., Philadelphia.

International Nickel Co., New York, through A. J. Wadhams, manager of development and research, has announced the addition of Herschel V. Beasley to the technical staff. Mr. Beasley will make his headquarters in the New York office where his services on production and application of alloy cast irons will be available to industry at large.

General Electric Co. has appointed E. A. Hancock as district manager of the industrial department of its New England district, according to T. S. Knight, manager of the New England district. Mr. Hancock succeeds C. A. Chase, who retired as of Oct. 31.

Crane Co. has moved its Greenville (S. C.) office from 218 Pendleton St. to 219 W. McBee Ave. P. F. Sackett, manager, said that the move to larger quarters was caused by expanding business, and would enable the company to carry an even more complete line of valves, fitting, pipes, etc., adapted to textile industry.

A. M. Byers Co., Pittsburgh, Pa., announces that it will manufacture steel pipe in addition to its present line of wrought-iron products.

Roller-Smith Co., New York, has appointed Harris-Green Co., Farmers Bank Bldg., Pittsburgh, Pa., as its district sales agent for western Pennsylvania, eastern Ohio and West Virginia.

Chicago Mill & Lumber Co., Chicago, has established a southeastern sales office at 614 Johnston Bldg., Charlotte, N. C., which will be headquarters for E. J. Mueller and C. P. Semmlow, both of whom have long sold plywood packing cases and other products of the company to textile mills.

Terrell Machine Co., Charlotte, N. C., has been appointed distributors in North and South Carolina for Thermoid mechanical rubber goods, which include hose, tubing, belting and packings.

Engineering Mill News

Aragon (Ga.) **Mills** have completed construction of a new school building for mill operatives, and will place unit in service at once. It represents an investment of about $35,000.

Lanett (Ga.) **Bleachery & Dye Works** have erected 12 four-room houses on property recently purchased. They are equipped with modern plumbing and conveniences.

Hanover (Ill.) **Woolen Mfg. Co.** is abandoning its power plant on the Apple River in favor of a franchise granted to the Interstate Power Co., Dubuque, Ia.

Talbot Mills, North Billerica, Mass., will remodel and improve power and heating systems at the plant, changing from coal to oil fuel.

Fulton (N. Y.) **Worsted Mills** of **American Woolen Co.** have begun construction of new filter plant and system, estimated to cost close to $25,000, replacing service heretofore secured from pumping station at Lake Neahtawanta.

Sayles Biltmore Bleacheries, Asheville, N. C., on Oct. 12 celebrated their record of having operated for one million hours without a lost-time accident.

Brookford (N. C.) **Mills Co.** is having Charles Bryant transform its water power to electrical power.

American Enka Corp., Enka, N. C., is being connected with the Asheville-Waynesville state highway by a concrete bridge over the Southern railroad tracks to replace a narrow wooden structure. The State Highway department has allocated $20,000 for the job and is rebuilding the road approaches.

Proximity Mfg. Co., Greensboro, N. C., has broken ground for new four-story mill addition, to be used primarily for warehouse and distribution service. Cost about $45,000 with equipment.

Clinchfield Mfg. Co., Marion, N. C., has let contract to Fiske-Carter Construction Co., Greenville, S. C., for re-roofing the plant. J. E. Sirrine & Co., of Greenville, are engineers for the project.

Wellington Mills, Inc., Anderson, S. C., is changing from steam to electric power operation. A number of departments are now on the new basis and work will be carried out until entire mill is electrified.

ADVERTISING PAGES REMOVED

QUOTATIONS

At close of business, Nov. 1, 1935

Prices cover average qualities unless otherwise stated

Cotton Goods

	Nov. 1	Oct. 1	1934 Nov. 1
PRINT CLOTHS			
27 -in., 64x60, 7.60	4¾	5	4¾
38½-in., 64x60, 5.35	6¾	6¼	6¾
39 -in., 68x72, 4.75	7⅛	7⅛	7⅛
39 -in., 72x76, 4.25	8½	8¼	8½
39 -in., 80x80, 4.00	8⅝	8⅜	8¾
BROWN SHEETINGS			
36-in., 56x60, 4.00	8¼	7¼	7⅞
36-in., 48x48, 5.00	6¾	5⅞	6
37-in., 48x48, 4.00	7½	6¼	7½
MISCELLANEOUS			
Drills, 37-in., 3 yd.	9½–9⅝	9½	9¾
Denims, 2.20	15½	15	15
Tickings, 8 oz.	19	19	19

*Tax included.

Cotton Waste

Peeler comber	12.75
Peeler strip	13.00
White spooler (single)	7.00
Linters (Mill Run Average)	6.00

Cotton Prices

Spot Cotton at:	Nov. 1	Oct. 1	For Month High	Low	1934 Nov. 1
New York...	11.40	11.05	11.40	11.05	12.25
New Orleans.	Hol.	10.85	11.45	10.85	12.34
Liverpool...	6.45	6.27	6.65	6.27	6.83

FLUCTUATIONS OF FUTURES

	Closed Nov. 1	For Month High	Low	Closed Oct. 1	Net Change
Nov.	11.07	11.07	10.68	10.68	+0.39
Dec.	11.02	11.23	10.64	10.67	+0.35
Jan.	10.89	11.27	10.68	10.71	+0.08
Feb.	10.88	10.88	10.74	10.74	+0.14
Mar.	10.86	11.34	10.70	10.78	+0.08
April	10.86	11.10	10.81	10.81	+0.05
May	10.86	11.38	10.76	10.86	.....
June	10.83	10.84	10.83	10.84	—0.01
July	10.80	11.42	10.77	10.82	—0.02
Oct.	10.62	10.87	10.66	10.65	—0.03

AVERAGE PRICE JUNE-JULY SHIPMENT HARD WESTERN COTTON

	F.o.b. New England Middling	St. Middling
1⅛-in.	14.02	15.02
1 3/16-in.	15.02	16.02
1¼-in.	18.02	19.52

Based on December, 11.02.

FOREIGN COTTONS

Alexandria Exchange, Nov. 1	
November, Sak	15.41
December Uppers	12.29
Shipment c.i.f. Boston (Tariff not included)	
Medium Sak	24.35
Medium Uppers	23.10
(By Anderson, Clayton & Co.)	
India Rough, Calcutta Camilla	11.00
China Tientsin No. 1	11.75

Quotations on cotton cloth and cotton yarn as given on this page include the cotton processing tax. Cotton waste prices also include the processing tax but of course the prices on various raw cottons do not include it.

Cotton Yarn

(Tax Added)

CARDED (Average Quality)

Double Carded 2c—4c., higher according to quality

SINGLE SKEINS ON TUBES (Warp Twist)

4s to 8s	$0.27½	20s	$0.30½
10s	.28	24s	.32½
12s	.28½	26s	.33½
16s	.29½	30s	.35½

TWO-PLY SKEINS AND TUBES

8s-2	$0.28	20s-2	$0.31
10s-2	.28½	24s-2	.33
14s-2	.29½	30s-2	.36
16s-2	.30	40s-2	.42

SINGLE WARPS

10s	$0.28½	20s	$0.31
14s	.29½	24s	.33
16s	.30	30s	.36

TWO-PLY WARPS

8s-2	$0.28½	20s-2	$0.31½
10s-2	.29	24s-2	.33½
14s-2	.30	30s-2	.36½
16s-2	.30½	40s-2 ordin.	.42½

HOSIERY CONES (Frame Spun)

8s	$0.29	18s	$0.31½
10s	.29½	20s	.32½
12s	.30	22s	.33½
14s	.30½	24s	.34½
16s	.31	26s	.35½

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.37	50s-2	$0.51½
30s-2	.41½	60s-2	.57½
40s-2	.45½	80s-2	.78½

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.37½	50s-2	$0.52½
30s-2	.42	60s-2	.58½
36s-2	.43½	70s-2	.68½
40s-2	.47	80s-2	.79½

SINGLES

14s	$0.35	38s	$0.45½
20s	.37	40s	.46½
28s	.41	50s	.51½
30s	.41½	60s	.57½

MERCERIZED CONES—(Combed, Ungassed)

30s-2	$0.53	60s-2	$0.72
40s-2	.58	80s-2	.98

Raw Silk

Prices Nominal

	13/15 White	20/22 White	20/22 Yellow
Special Grand, 85%	$2.25–2.30	$2.10–2.15	$2.05–2.10
Grand XX, 83%	2.20–2.25	2.08–2.13	2.03–2.08
Special Crack, 81%	2.15–2.20	2.06–2.11	2.01–2.06
Crack XX, 78%	2.12–2.17	2.04–2.09	1.99–2.04
Extra, Extra 73%	2.09–2.14	2.02–2.07	1.97–2.02
Best Extra, 68%	2.07–2.12	2.00–2.05	1.95–2.00

RAW SILK EXCHANGE

	Nov. 1	Oct. 1	For Month High	Low	Net Change
Nov.	2.08	1.81	2.11	1.81½	+0.27
Dec.	2.05	1.79½	2.09½	1.79½	+0.24½
Jan.	2.03	1.79½	2.09½	1.80	+0.22½
Feb.	2.02	1.80	2.10	1.80	+0.22
March	2.02	1.80½	2.09½	1.80	+0.21½
April	2.02	1.80	2.09	1.80	+0.22
May	2.02	1.80½	2.09½	1.80	+0.21½
June	2.02	....	2.04½	1.98	+0.06½

Silk Yarns

Hosiery tram 5thd. Japan, 85%	$2.95
Hosiery tram, 5thd. crack XX, 78%	2.80
60/2 spun silk	2.95

RAYON WASTE

Thread (for garnetting)	$0.16–$0.18

Wool

OHIO, PENNSYLVANIA, ETC. (GREASE)

Fine delne	$0.32–$0.33	⅜ blood	$0.36–$0.37
Fine clthg	.27– .28	½ blood	.36– .37
½ blood	.32– .33		

TEXAS AND CALIFORNIA (CLEAN)

Texas 12 months	$0.76–$0.78
California, Northern	.70– .72

MONTANA, IDAHO, WYOMING (CLEAN)

Staple fine	$0.80–$0.82
Staple ½ bld	.77– .79
Fine and fine medium (original) bag	.67– .69
¾ blood	.70– .72
½ blood	.65– .67

EASTERN SCOURED PULLINGS

A.A	$0.86–$0.87	B-Super	$0.73–$0.78
A-Super	.81– .83	C-Super	.68– .70

CARPET WOOL (Nominal)

Aleppo, washed (80%)	$0.23 –$0.24
Cordoba	.14 – .15
China (80-20 selection)	.17½– .18
Jorias, choice	.50 – .51
Scotch black face	.15½– .16

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$1.01–$1.03
Half-blood (60-62s)	.95– .98
Aver. ¾ blood (56s)	.87– .88
½ blood (50s)	.80– .82

NEW YORK TOP FUTURES

	Closed Nov. 1	For Month High	Low	Closed Oct. 1
Nov.	94.3	93.5	92.8	90.7
Jan.	94.0	94.3	91.0	90.5
March	95.0	94.8	92.0	91.0
April	95.0	93.5	93.3	91.0
May	95.0	95.0	92.5	91.0

TOPS—BRADFORD ENG. (Nov. 1)

Fine (64s)	31½d	¾ bld. (56s)	20½d
½ bld. (60s)	29½d	½ bld. (50s)	15½d

NOILS—BOSTON

Fine	$0.63–$0.65	¾ bld	$0.53–$0.56
Half bld	.58– .60	½ bld	.47– .52

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 44s	$1.05–$1.10	2-36s 58s	$1.37½–$1.42½
2-30s 46s	1.10– 1.15	2-40s 60s	1.42½– 1.47½
2-30s mixes	1.50– 1.55	2-50s 64s	1.60 – 1.65

ENGLISH SYSTEM KNITTING

2-20s 44s	$0.95–$1.00	2-20s 60s	$1.20 –$1.25
2-20s 50s	1.00– 1.05	2-20s 64s	1.30 – 1.35

FRENCH SYSTEM

1-26s 64s	$1.25–$1.30	2-40s 64s Zephyrs	$1.52½–$1.55
1-30s 64s warp	1.40– 1.45	2-50s 66s	1.70 – 1.75

Domestic Rayon (Skeins)

VISCOSE PROCESS

Denier	Filament	Price	Denier	Filament	Price
50	14	$1.07	150	24–40	$0.57
75	30	.87	150	60	.59
100	40	.76	300	44	.48
125	36	.65			

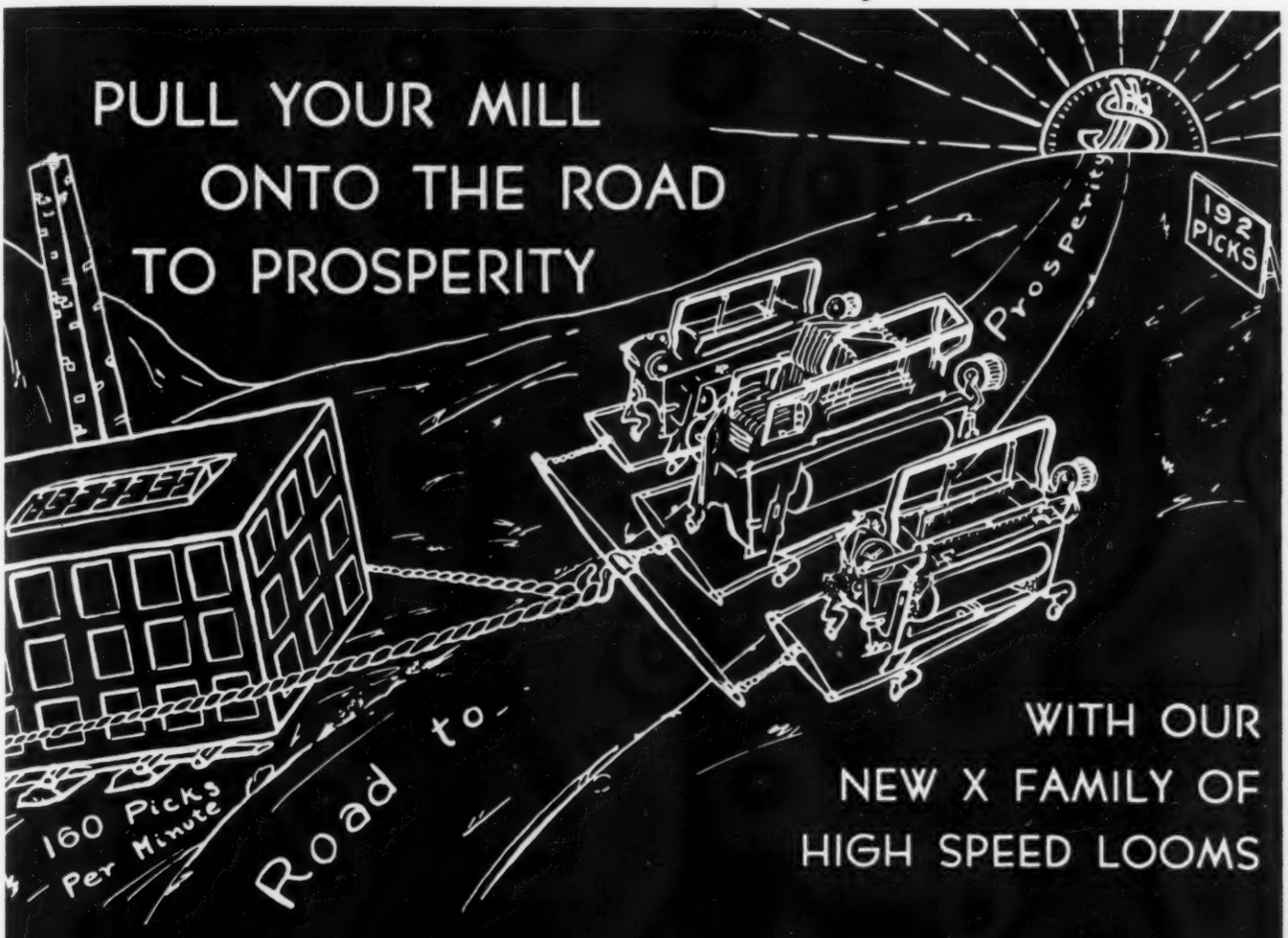
ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.10	100	$0.77½
55–65	1.05	120–125	.68– .73
75	.90	150	.60

CUPRAMMONIUM PROCESS (TWISTED)

Denier	Filament	Price	Denier	Filament	Price
30	24	$1.42	100	75	$0.81
75	60	.92	150	112	.62

PULL YOUR MILL ONTO THE ROAD TO PROSPERITY



WITH OUR NEW X FAMILY OF HIGH SPEED LOOMS

You Can Run Ordinary E Model Weaves on a 40" X Model Loom at 192 Picks per Minute

You Can Weave Fine Rayons on a 42" X or XK Model Loom at 175 Picks per Minute

You Can Run a Wide Variety of Difficult Weaves from Medium Weight Corduroy to Broadcloth and Fine Lawns on the XK Model at Same High Speed

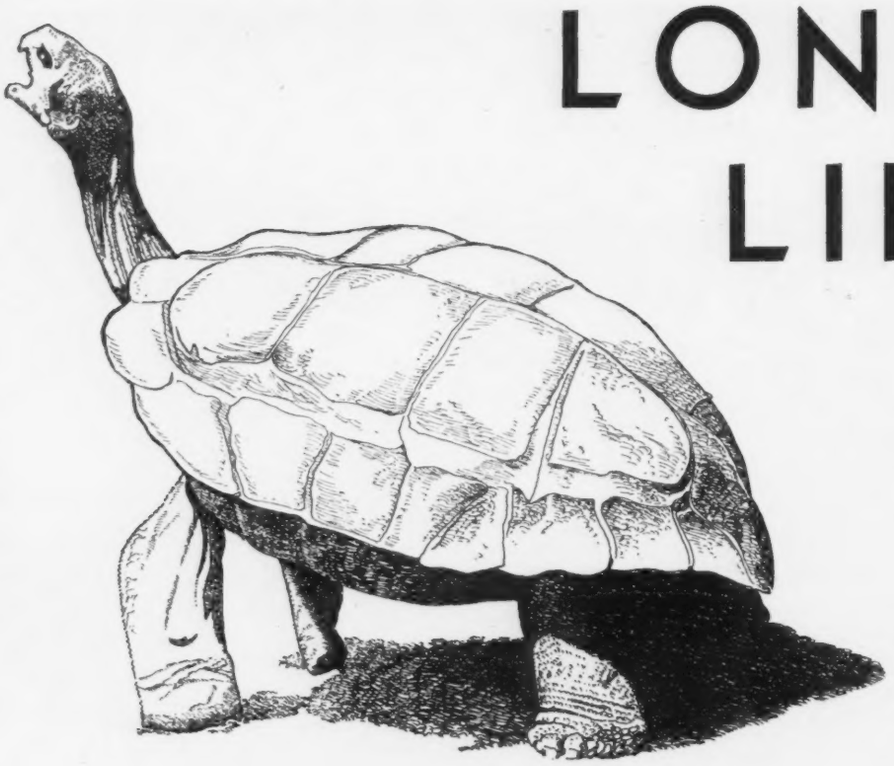
You Can Weave Broad Sheets on a 90" XL Model at 120 Picks per Minute

What Are Your Looms Doing?

DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

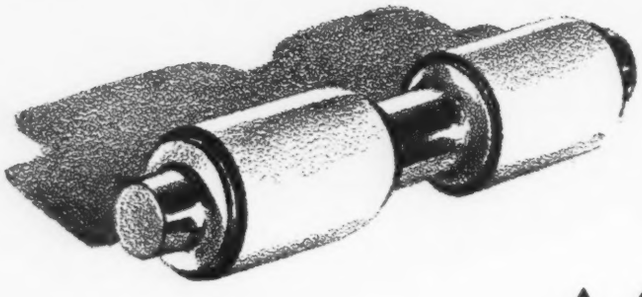
LONGER LIFE



The tortoise is probably the oldest living inhabitant of the world. Some have been estimated to be 200 years old.

SPINNA CALF

• The longest-lived material there is. It is the answer to the lowest roll covering bill.



A. C. LAWRENCE LEATHER CO.

Specialists in Textile Leathers

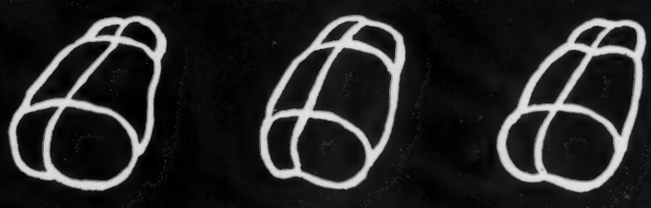
BOSTON · MASS · · · PEABODY · MASS.
GREENVILLE · S. C.

2433

Fabric *Quality* begins with the *Yarn*

ARMOUR'S LITTLE PIGS

GO TO MARKET



BY BELL SYSTEM

TELETYPEWRITER SERVICE

BELL SYSTEM teletypewriters connect the Chicago headquarters of Armour and Company with stock-yards, slaughtering, and production plants and district offices in twenty-six cities. Armour units in other cities are connected with headquarters by many different types of wire facilities furnished by the telephone company. This communication hook-up permits Armour to control many far-flung activities almost as if they were under one roof.

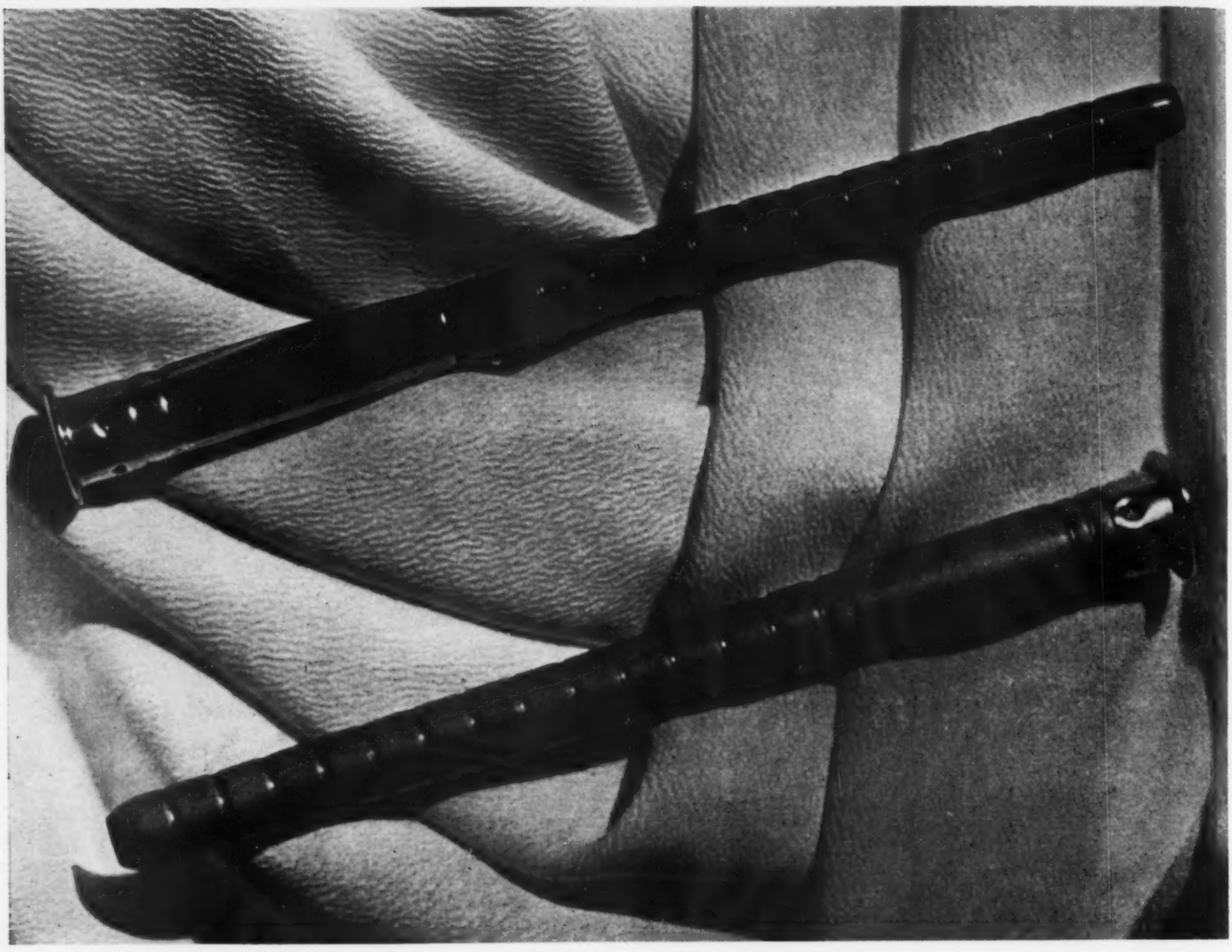
Teletypewriter Service handles slaughtering and production reports which are transmitted direct from outlying units to Chicago, these units receiving instructions in return almost instantaneously. Purchasing and production are closely co-ordinated with demand. As a result Armour gets better prices, there is less shrinkage and spoilage, and faster turnover.

District offices in major cities depend upon the teletypewriter and other Bell System facilities to send orders to headquarters, to help maintain adequate stock levels, and to report market conditions by which prices and sales policies are determined.

In cities where no warehouses are maintained, queries and orders are transmitted to the proper plant two or three times a day. Information is flashed back and delivery started quickly. Customer service is comparable to that in branch house cities.

Because the teletypewriter is fast and flexible . . . because it makes written records of every communication . . . it is as valuable to other industries as to Armour. More than 200 textile firms, including Chicopee, Rosemary, Beaunit, Wamsutta, Wahnetah and Kenwood, use it.

QUALITY EQUIPMENT FOR QUALITY FABRICS IS TRUE ECONOMY



THE CORRECT QUILLS FOR QUALITY WEAVING

Only quality achieves quality. This principle applies to equipment as well as to raw materials and workmanship in the production of fine fabrics. For instance filling bobbins or quills unsuited to the purpose may seriously damage yarn and cause an excess of loom stops and weaving defects.

When weaving delicate and costly fabrics, use A.P.T. hardened and impregnated paper quills. Their special construction, their smooth surface and their high resistance to roughening from wear, and to warping from exposure to conditioning, help to reduce waste, loom stops and weaving defects.

A.P.T. quills are truly economical because they are the "best for the purpose." In some cases they permit a larger shuttle supply. Their long life, as well as their efficient service, assures a proper return on the investment.

A.P.T. impregnated tapered tubes give better results on fine yarns and are highly resistant to all types of conditioning

AMERICAN PAPER TUBE COMPANY

WOONSOCKET, R. I.

ESTABLISHED 1898

SPECIALIZING IN THE FINEST TAPERED TUBES AND QUILLS OF ALL TYPES

One hypodermic injection every day for two weeks. Thus simply and quickly are thousands each year made immune to the dread disease of rabies. However Louis Pasteur worked steadily for FIVE YEARS on this one problem (to say nothing of 15 or 20 years of previous experience), before he announced his now famous "treatment" to the world.

EXPERIENCE MADE BOTH POSSIBLE

Great achievements in any field, once recognized, are always taken for granted, with little thought of the many years of research and experience that made them possible.

Franklin Process Colors are now specified or ordered as a matter of routine by a majority of converters and manufacturers of cotton yarn dyed fancies. Because these colors are dyed in Franklin Process PACKAGE Dyeing Machines, many give full credit for the superiority of Franklin Process Service to the TYPE of MACHINE, and assume that any dyer, using package dyeing machines, can match Franklin Process achievements.

Package Dyeing machines (properly designed) are undoubtedly a big advance over older types of yarn dyeing equipment. However they are only partly responsible for Franklin Process leadership. Back of this leadership, to an equal extent, are 25 years of organization, research and good management.

As a result of these activities, Franklin Process offers not only superior equipment, but also a superior knowledge of dyestuffs, of the methods of application, and of market requirements. Hence customers frequently get better colors within their price range, or more marketable colors, both as to price and quality, than would otherwise be the case.

Experience, above all else, has made such service possible. It can not be duplicated overnight. Achievement is always born of experience. Therefore if you want the best in yarn dyeing service, from all standpoints, look to—

Custom Yarn Dyeing

Natural Yarns **Colored Yarns**

Glazed Yarns

Dyeing and Processing Machines

THE COLORED YARNS IN THIS FABRIC ARE FRANKLIN PROCESS DYED FASTNESS TO WASHING AND LIGHT GUARANTEED SATISFACTORY

When you pay for colors of KNOWN fastness, advertise the fact. Use the Franklin Process Fast Color Label. Ask us about it.

FRANKLIN PROCESS

ESTABLISHED 1910

See also TEXTILE YEARBOOK and CONSOLIDATED CATALOGS

Pioneers in Package Dyeing

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA • N. Y. REPRESENTATIVE, 40 WORTH ST.

We keep BEARINGS *instead of bearing*

A bearing out of service means a machine out of production. By using the lubricant best suited to a particular operating condition, or type of bearing, you can minimize this hazard.

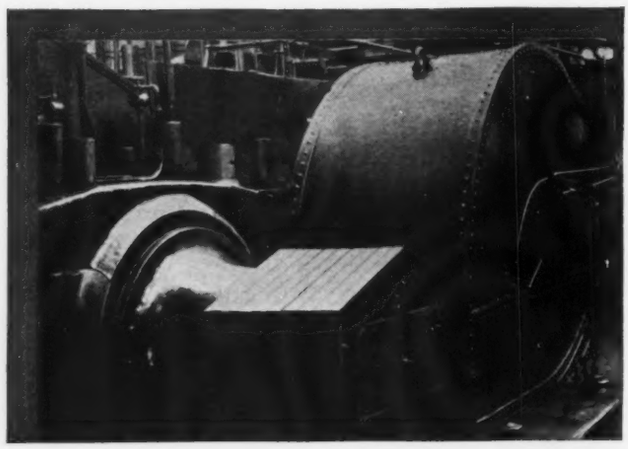
Through an interchange of ideas and constant contacts with bearing designers and manufacturers, in addition to extensive scientific research in The Texas Company's own laboratories, Texaco has developed a complete line of tested and proved lubricants that fit exactly every bearing condition in your plant.

Remember that the Texaco representative is trained to aid your men in the proper selection and use of the most effective lubricant for any condition. They will welcome his friendly, helpful cooperation because it means an opportunity for them to show you new savings, and greater operating efficiencies.

THE TEXAS COMPANY

135 East 42nd Street · New York City

Nation-wide distribution facilities assure prompt delivery



Just a few examples

1. Rolling Mill Bearings · Here heat and tremendous pressures play havoc with unsuitable lubricants. Texaco has solved this difficult lubrication problem for many of the country's foremost mills.

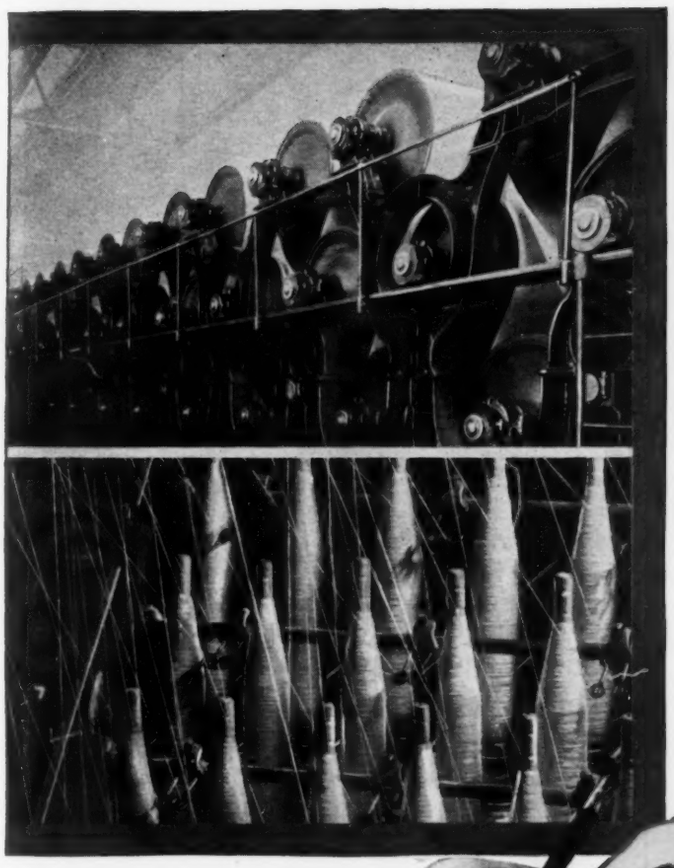
2. Paper Mill Bearings · The efficient lubrication of paper machines presents a wide variety of conditions requiring close specialized study. These bearings call for exacting attention to conditions of speed, pressures, moisture and temperature. There is a proved Texaco Lubricant exactly right for every bearing in the plant.

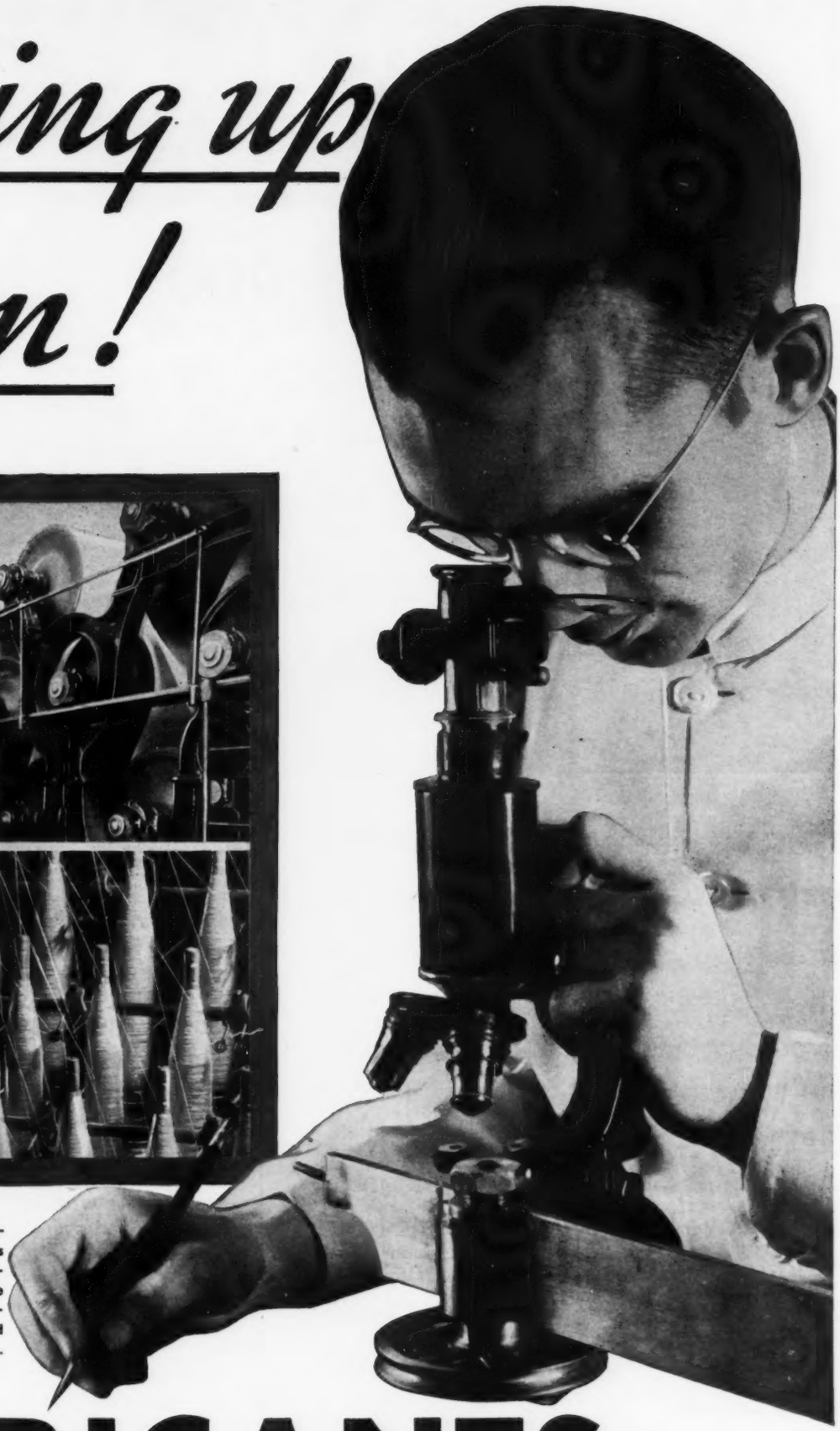
3. Textile Mills · Lighter bearings operating at high speeds seem a comparatively simple problem. Cotton spindles, for instance, represent just one of them. Texaco has developed a series of remarkably efficient bearing lubricants for textile mills. They have effected power savings in many plants.

TEXACO *tested*

REFINERY TESTED FOR UNIFORMITY . .

bearing up down!





Texaco research specialists are constantly at work studying the problems of lubrication, developing new lubricants to meet new conditions. It will be profitable for you to let a Texaco representative tell you about this work and the benefits in your plant operations.

LUBRICANTS

. . SERVICE TESTED FOR ECONOMY

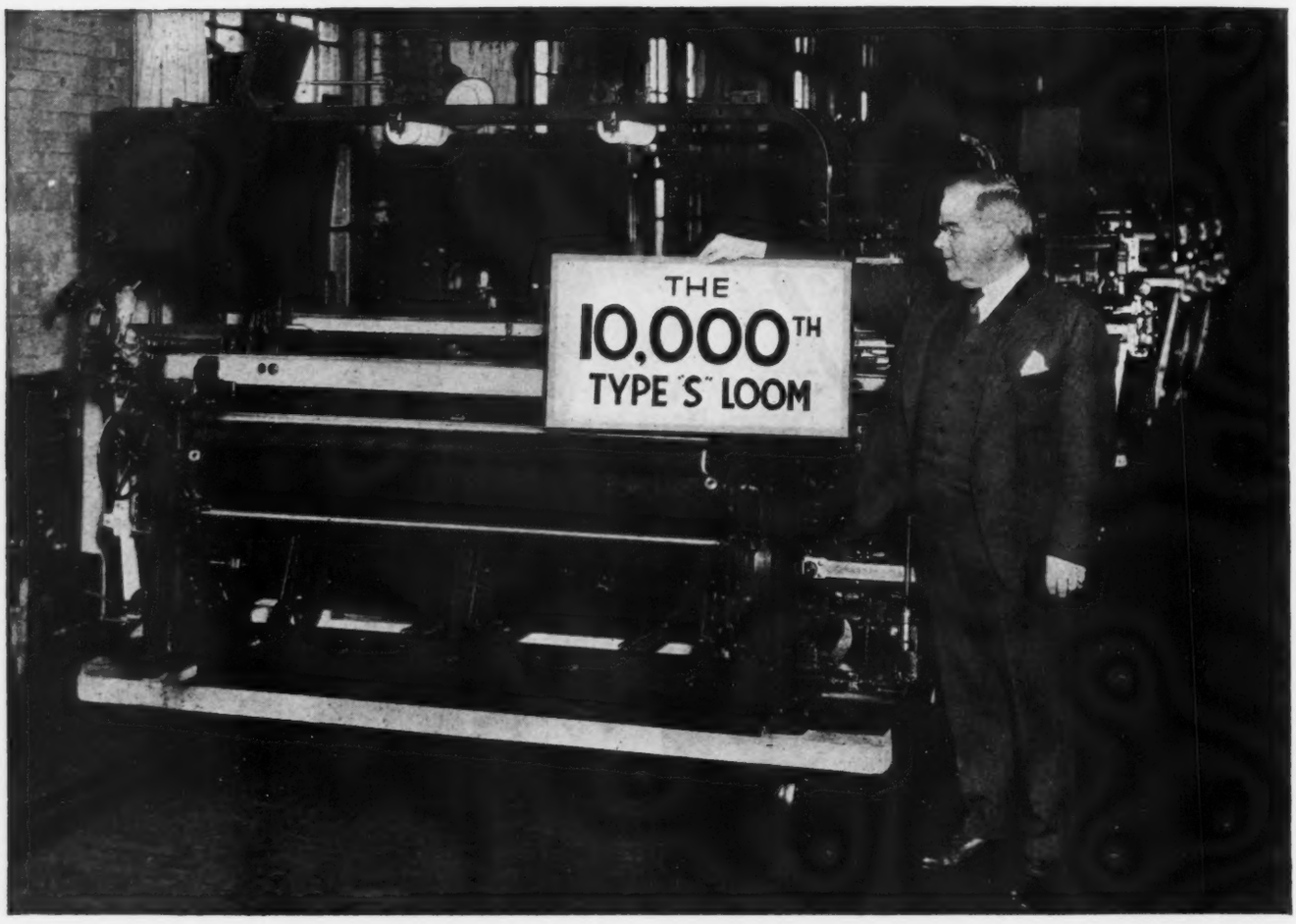


PHOTO TAKEN NOV. 5, 1935

10,000 Type "S" Looms are now in operation . . .

To us this is something of an event. The very fact that ten thousand C & K Type S Looms have been bought by the industry in the four years since they were first offered is, in our judgment, the highest kind of testimonial. There have been 82 United States and 25 foreign purchasers with one concern reordering as many as 15 times. Had not these looms done everything claimed by us, no such record of sales could have been made.

DISTRIBUTION

New England	1905
Pa., N. J. and N. Y.	2153
	4058
Southern States	5082
Foreign Countries	860
	10,000

DATA ON HARNESS MOTIONS

LOOMS BUILT WITH:

Intermediate Head	2144
Dobby	6751
Cone	736
Jacquard	132
Cam	237
	10,000

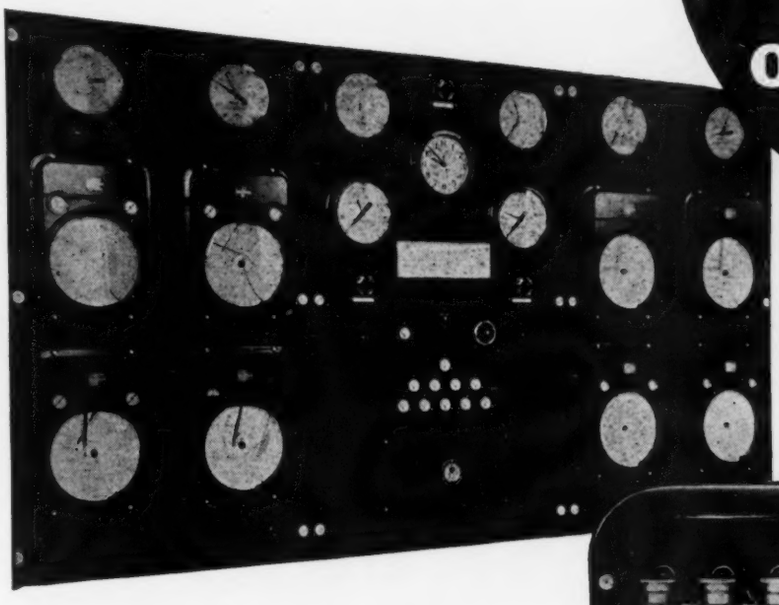
CROMPTON & KNOWLES LOOM WORKS

Allentown Philadelphia **WORCESTER, MASSACHUSETTS** Southern Office, Charlotte, N. C.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

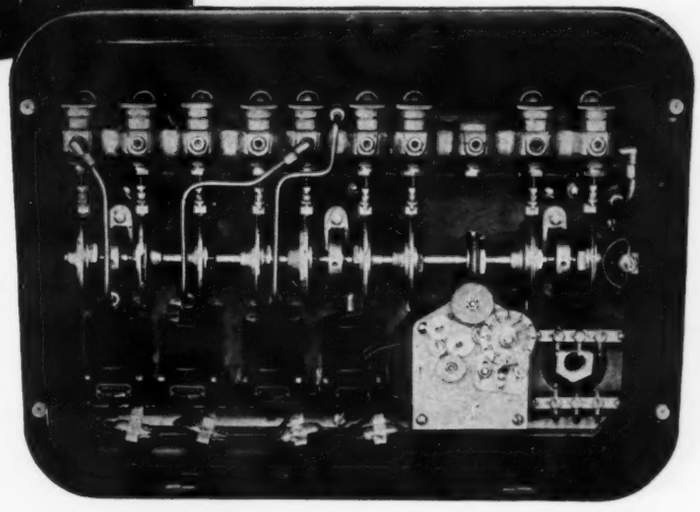
Now
recover Solvent Vapors more profitably with

COLUMBIA ACTIVATED CARBON in Automatically Operated Equipment



Left—Panel with the instruments which operate and control one of the new Automatic Solvent Recovery Plants. Signal lights indicate the operations being performed. Gauges, meters, and thermometers control, indicate and record pressures, rates of flow and temperatures.

Below—The "mechanical brain" of the unit, open for inspection. This is located in the black box at the bottom center of the panel. The motor-driven camshaft automatically operates the plant on a predetermined cycle.



SOLVENT recovery plants designed and installed by Carbide and Carbon Chemicals Corporation profitably recover a large number of vaporized solvents. COLUMBIA ACTIVATED CARBON* effects high recovery and special engineering features of the equipment insure easy, safe, economical operation.

Now, with the development by Carbide and Carbon Chemicals Corporation of fully automatic process operation and control, the recovery of solvent vapors becomes even more profitable. Data from plants installed show that this new feature reduces labor requirements and insures most economical use of power, steam and water. A total operating cost of 2c per gallon of recovered solvent, with recoveries as high as 94%, is not unusual. The lowest priced solvents can thus be recovered profitably.

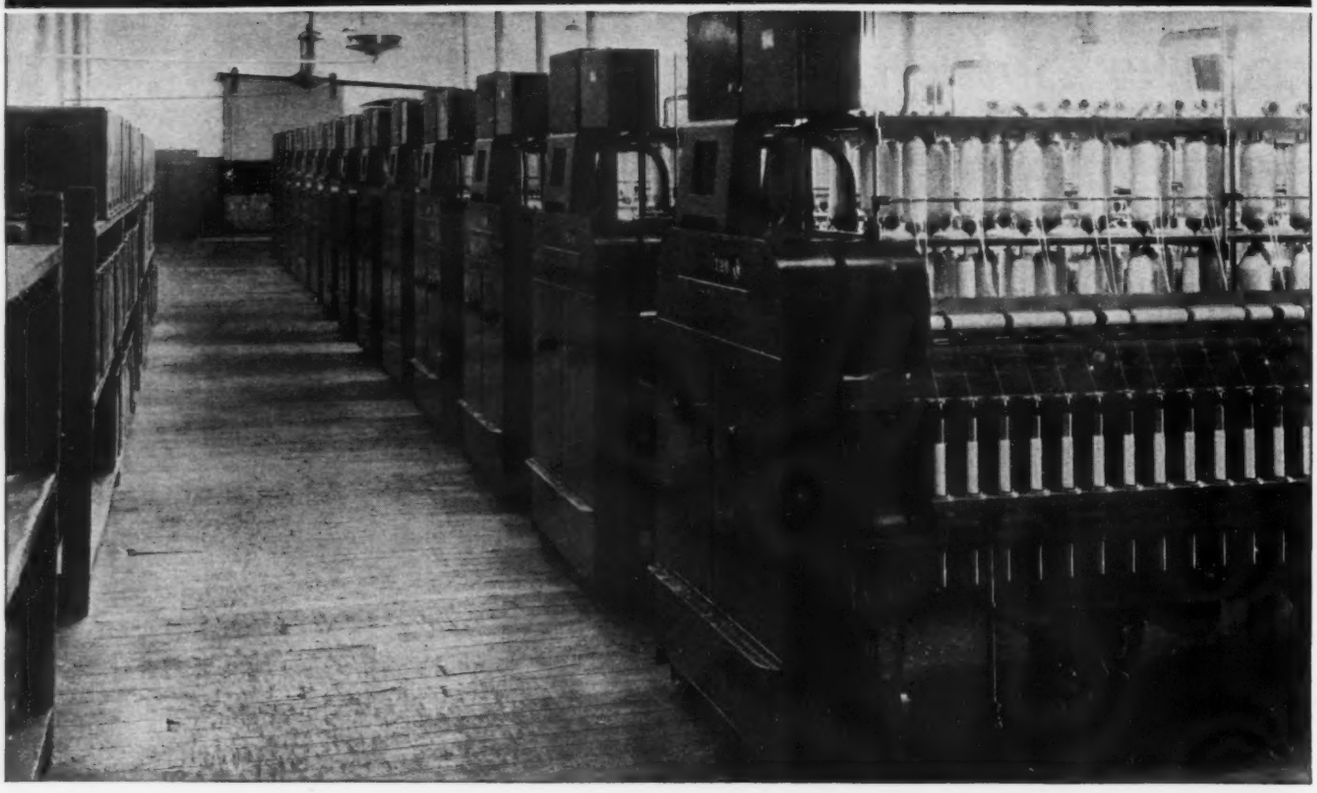
Our engineers will gladly inspect manufacturing operations where solvents are vaporized to determine the savings that can be secured through solvent recovery. They are prepared to design and install complete recovery equipment suitable for your needs and to give a definite guarantee of its performance. Write for description of an actual installation of the new automatic recovery system or, if you wish, request a survey.

Activated Carbon Division
CARBIDE AND CARBON CHEMICALS CORPORATION
Unit of Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York, N. Y.

*U. S. Patents 1,497,543; 1,497,544 and others

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

How's THIS for Performance?



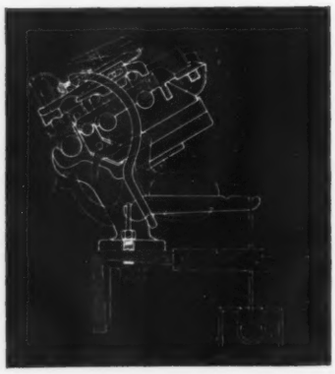
25% Increase in Production . . . .
20% Increase in Breaking Strength

A well known southern cotton mill recently installed a large number of our Model B spinning frames, equipped with H & B Four-Roller Long Draft (part of the installation pictured herewith).

Mill tests of this equipment were reported to us, giving the following data and results:

30's yarn, warp twist, 7/8" cotton. • Variable speed spinning. • Spindle speed: minimum, 10,073 r.p.m.; maximum, 11,573 r.p.m. • Traveler speed: minimum, 4558 f.p.m.; maximum, 5254 f.p.m. • Increase in production — approximately 25% • Increase in breaking strength — approximately 20%. • Ends down per 1,000 spindle hours — 32.

Perhaps H & B Four-Roller Long Draft will give comparable results for you. Why not investigate?



H & B AMERICAN MACHINE COMPANY

Cotton Preparatory and Spinning Machinery

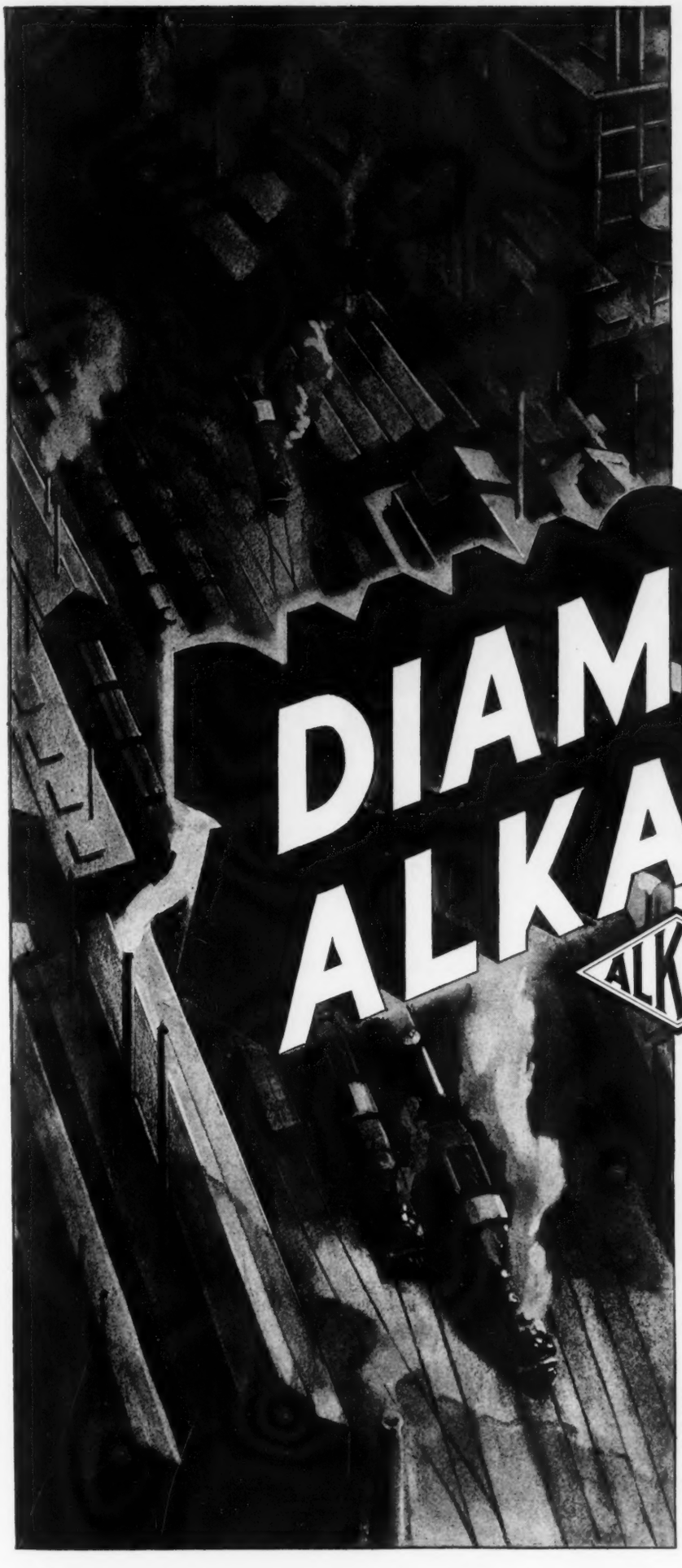
PAWTUCKET, RHODE ISLAND

BOSTON OFFICE, 161 Devonshire Street

ATLANTA OFFICE,
815 Citizens and Southern National Bank Building

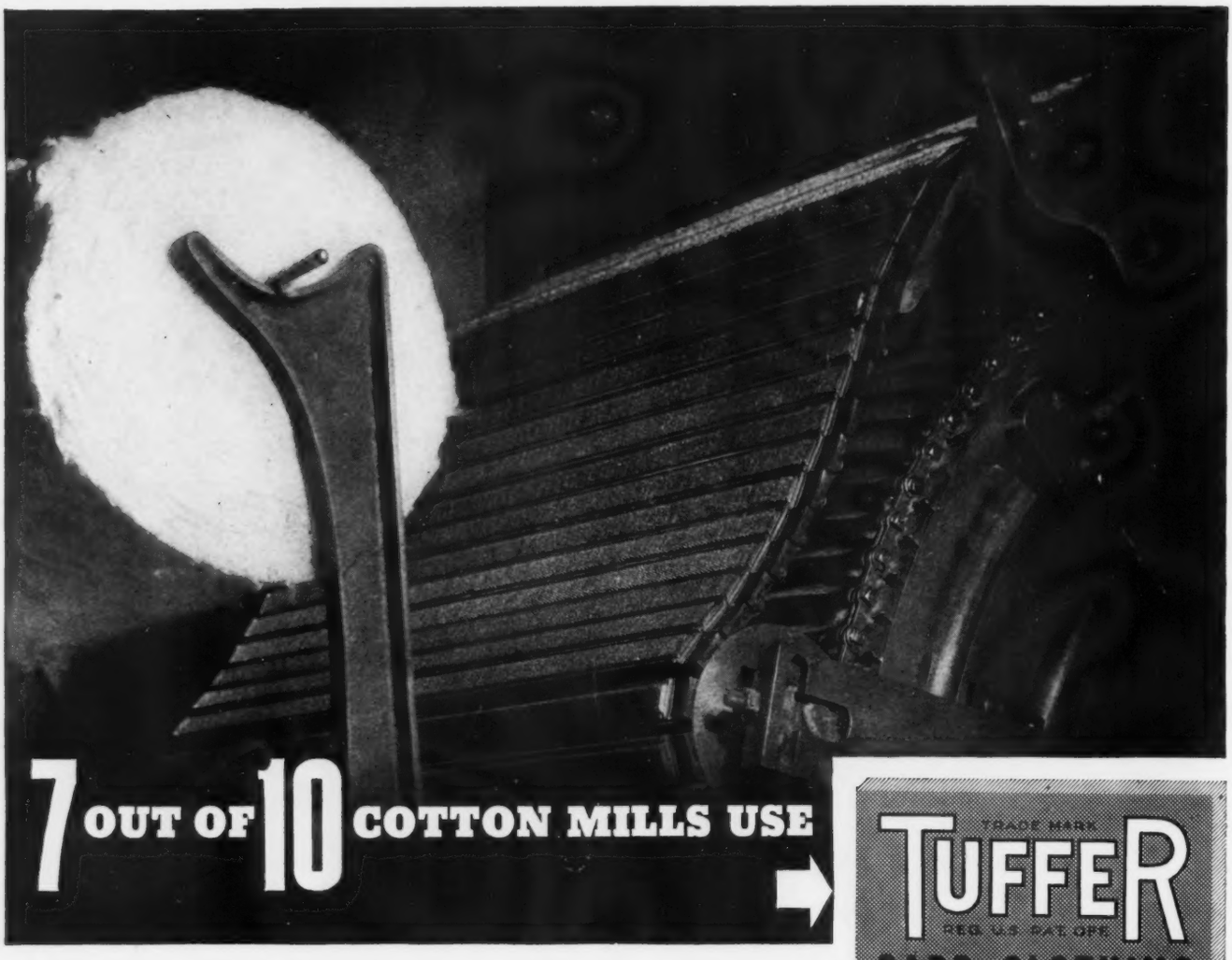
CHARLOTTE OFFICE, 1201-3 Johnston Building

H&B FOUR ROLLER LONG DRAFT SYSTEM



Directly served by three trunkline railroads, the large modern Diamond Alkali plant at Painesville, Ohio is the focal point of a nationwide distribution of all Diamond products . . . Warehouse stocks are maintained in all the important industrial centers for the less than carload purchasers . . . carload shipments are made from Painesville assuring prompt service over the most advantageous routings.

DIAMOND
ALKALI COMPANY
PITTSBURGH, PA.
and Everywhere



because it gives better and longer service

IT is very easy to choose the right card clothing if you follow the judgment of the majority of superintendents and boss carders.

TUFFER cylinder and doffer fillets perform a consistent job day in and day out. Tests and performance records prove that TUFFER top flats provide the exact precision to stay set as close as needed to maintain clearance through all the variations of revolving flats.

TUFFER Card Clothing owes its unusual acceptance to these features: (1) patented foundation; (2) correctly tempered wire; (3) holds its edge longer; (4) strips easier; (5) sets closer; (6) *all widths and lengths in stock for immediate delivery* . . . . all vitally important to uniform carding and card room economy.

Get acquainted with TUFFER Card Clothing service and quality . . at no price premium. Write the nearest Howard Bros. office for quick, dependable service.

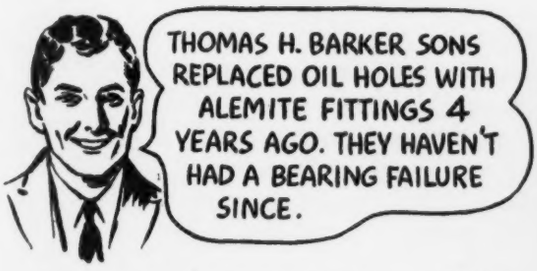
HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: **WORCESTER, MASS.**

So. Plant: 244 Forsythe St., Atlanta, **Branch Offices:** Philadelphia, Dallas, Washington

Products: Fillets for Feed Rolls, Lickerins, Tumblers, Strippers, Workers, Doffers, Fancies, and Cylinders, Doffer Rings, Napper Clothing, Strickles, Emery Fillets, Burnisher Fillets, Top Flats Recovered and extra sets loaned, Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant. Midgley Patented Hand Stripping Cards and Inserted Eye and Regular Wire Heddles

ALEMITE SYSTEM CUTS SIX MONTHS' LUBRICANT CONSUMPTION FROM 5 DRUMS OF OIL TO 1/2 DRUM OF ALEMITE TEMPRITE LUBRICANT

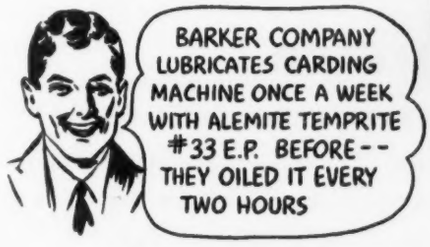


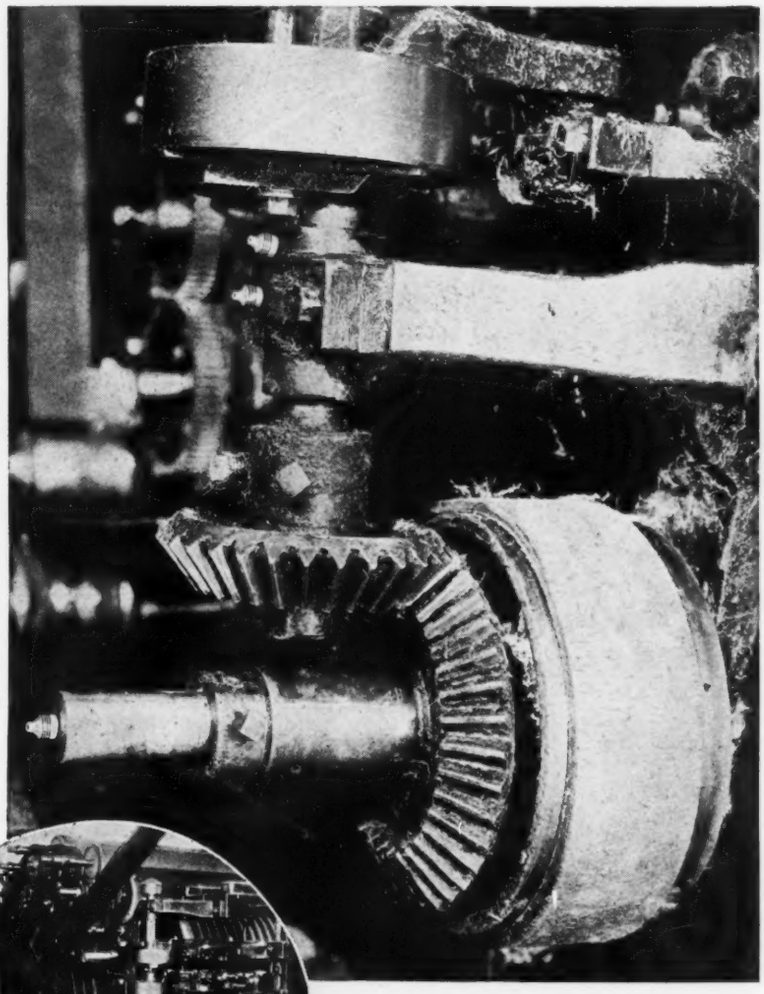
● You can't keep lint off carding machines. But you can eliminate the dangers of lint by replacing oil holes and squirt gun lubrication with Alemite Fittings, Alemite Guns, and Alemite Temprite Lubricant (a solidified oil). And you'll find it pays.

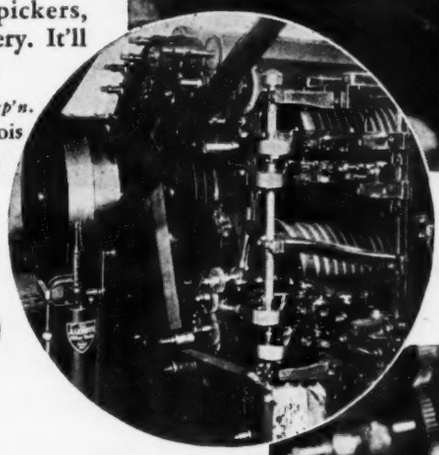
Just see what Alemite has done for this woolen yarn manufacturer of Gladwyne, Pennsylvania. Four years ago, they discovered that many breakdowns were due to faulty lubrication. They found oil holes as far as ten inches from the bearings, many of them clogged with lint and dust. And they found the slippery, oil-soaked floors were dangerous and a fire hazard. So they adopted the Alemite System and Alemite Lubricants.

Alemite is saving money for textile mills in all parts of the country. There are Alemite Systems for carding machines, pickers, looms, and all other textile machinery. It'll pay you to know more about them.

ALEMITE—*A Div. of Stewart-Warner Corp'n.*
1888 Diversey Parkway Chicago, Illinois
Stewart-Warner-Alemite Corp'n. of Can., Ltd., Belleville, Ontario, Canada

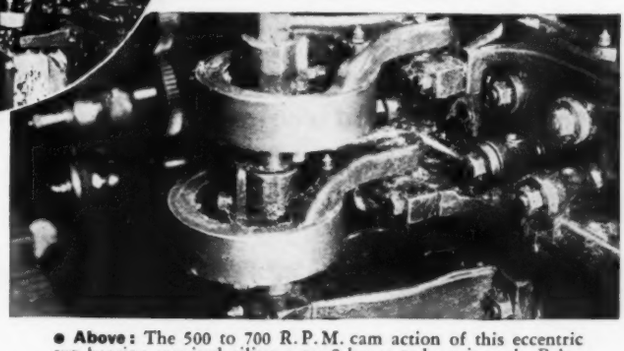






● **Above:** When this Carding Machine bearing was oiled—4 times each 8 hours—the oil had to flow 10 inches on the horizontal shaft. Seizure was frequent. Alemite No. 33 E. P., applied once a week, eliminated bearing failures.

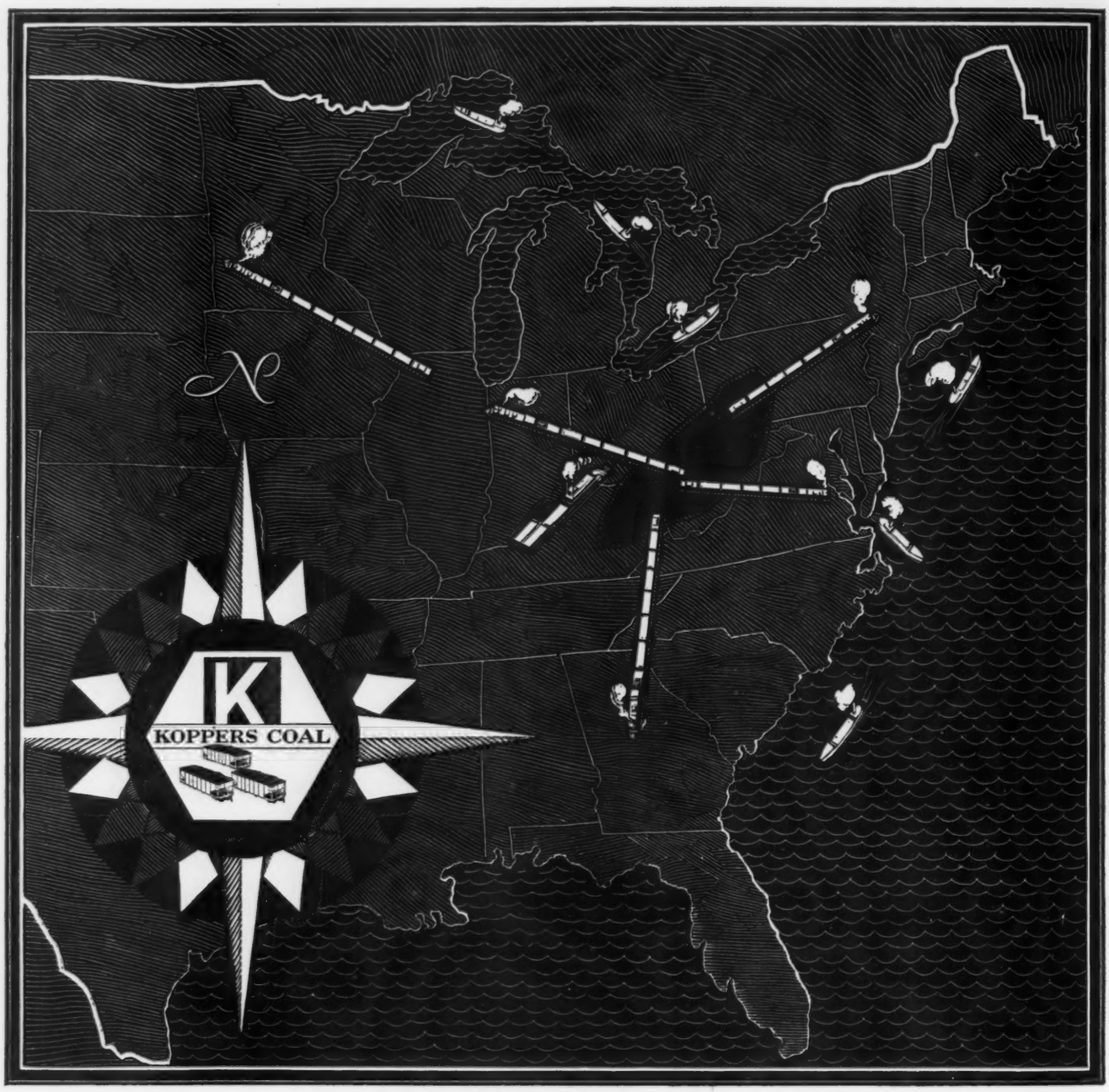
● **Left:** Proctor & Schwartz Woolen Carding Machine in the Thomas H. Barker's Sons Mill.



● **Above:** The 500 to 700 R. P. M. cam action of this eccentric cup bearing required oiling every 2 hours to keep it cool. Belts, floors, and the machine received most of the oil. Now Alemite No. 33 E. P. is applied once each 8-hour shift.

ALEMITE
REG U. S. PAT. OFF.
TEMPRITE LUBRICANTS
LUBRICATION EQUIPMENT

THERE'S A KOPPERS COAL FOR EVERY PURPOSE



A COMPLETE COAL SERVICE

From twenty-five mines, by rail and water, Koppers coals pour out over a vast territory to serve the needs of American Industry. *A coal for every purpose* means a coal for every industry, and proper application to individual requirements. And behind Koppers coal is a large, well established organization which can be depended upon to give a complete and satisfying coal service.

THE KOPPERS COAL COMPANY, INC.

General Offices:
Koppers Building, Pittsburgh, Pa.

KOPPERS

Atlanta Chicago Cincinnati Cleveland
Detroit New York Norfolk
Philadelphia Winston-Salem

"TUNE IN" To Process Control

... as Easily as dialing a Radio

BROWN Air-O-Line

Easily Adapted Then Fully Automatic

AUTOMATIC RESET DIA
The graduated dial mak
it possible to change t
rate at which the contr
point is automatically
set. No resistance tubi
is used.

THROTTLING RANGE DIA
Graduated from 1 per ce
to 150 per cent throttli
range. Sufficient to pr
vide flexibility required
meet any type of contr
problem.
Instantly adjustable wit
out removing chart pla

Other features and mode
are fully described
Catalog 8900. Write for

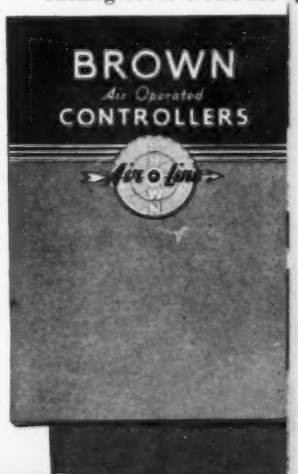
The use of Graduated Dials for both "*Throttling Range and Automatic Reset*" in the Brown *AIR-o-LINE* is a revolutionary development in air operated controllers. They provide a means for "tuning in" to your specific process requirements, simply and quickly, without dismantling the controller or interrupting its control operation. Operators are encouraged to secure "best possible," not just "good enough," control results, so apt to be present where adjustments are complicated and time-consuming.

Brown *AIR-o-LINE* assures accurate measurement and precise control of temperatures, pressure, flow and liquid level—*AIR-o-LINE* is set with the same simplicity as dialing a radio—once it is "tuned in" it becomes fully automatic. Brown *AIR-o-LINE* not only confines the process within limits but it "lines out" control at the exact desired control point, regardless of load or thruput changes.

Brown *AIR-o-LINE* has everything you have wished for in air operated control—it "Recognizes," "Analyzes" and "Corrects" for any departure from the exact control setting—without "Cycling," "Drifting" or shifting of the control point.

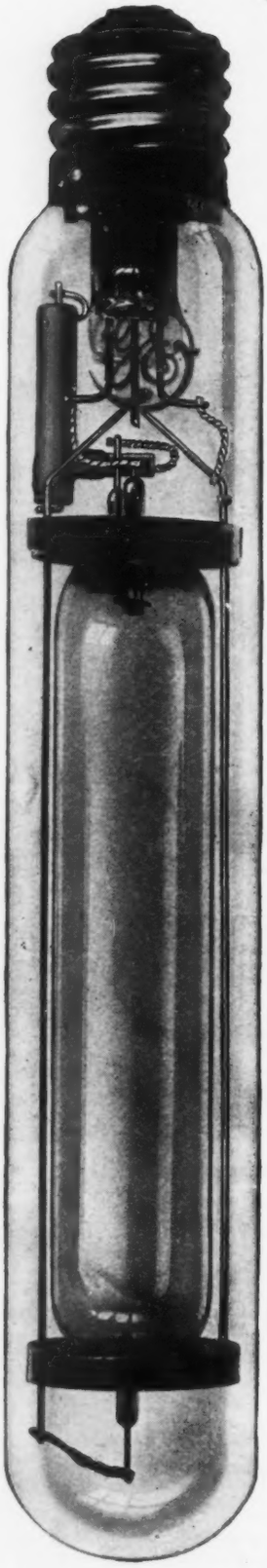
Modernize your process control with this MODERN air operated instrument. Brown *AIR-o-LINE* is more than a controller—it's a system that will aid you to reduce costs—designed for outstanding performance with simplicity.

Learn more about Brown *AIR-o-LINE*—you can rely on its accuracy—be confident of its dependability. Write for Catalog No. 8900. BROWN INSTRUMENTS, a division of Minneapolis-Honeywell Regulator Co., 4509 Wayne Avenue, Philadelphia. Offices in all principal cities. Canadian Factory, 117 Peter Street, Toronto, Canada.



BROWN AIR OPERATED CONTROLLERS

Its Efficiency Starts with



Order your auxiliary devices which were designed especially for this lamp from the General Electric Vapor Lamp Company.

40 LUMENS

per watt

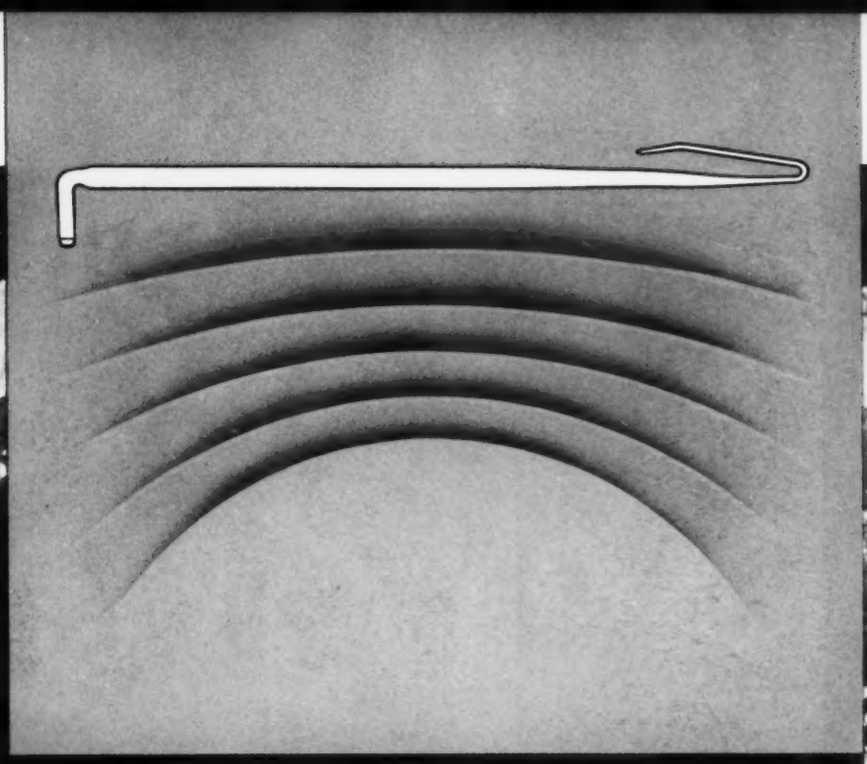
The General Electric High Intensity Mercury Vapor Lamp provides industry with more light at lower cost than can be obtained in any other way. 40 lumens per watt, its rated output, permits long continued use of the eyes by workers.

This lamp makes available the inherent advantages of mercury vapor light with the new, added convenience of a standard Mogul screw base for vertical mounting with base-up. It is also made for base-down installation. The lamp has an average life of 2000 hours. It is self-starting on either 110- or 220-volt, 60 cycle circuits, with specifically designed General Electric ballast units.

A new, sixteen-page booklet describes this General Electric High Intensity Mercury Vapor Lamp in detail. Write for your copy . . . General Electric Vapor Lamp Company, 849 Adams Street, Hoboken, New Jersey.

GENERAL ELECTRIC VAPOR LAMP COMPANY

664 Copr. 1934, General Electric Vapor Lamp Co.



MACHINE-MADE MEANS

Uniform Temper

To produce smooth, uniform knitting your needles must not only be tough and strong; they must have the same degree of toughness and strength—in order to "give" equally and maintain equal tension in the knitting process.

The temper of Torrington Needles is determined by machines . . . delicately balanced, finely adjusted machines that are capable not only of giving a finer temper to the steel but of keeping the temper consistently more uniform. As a result Torringtons perform more smoothly . . . last longer . . . stand the gaff of fast production better . . . and help to produce more uniform knitting results.

Machine precision is the keynote of Torrington manufacture. It is responsible for the exceptional uniformity of Torrington Needles in every important detail—temper, strength, finish, dimension. Use them and you will find Torrington machine-made uniformity reflected in the quality of your fabrics.

OUR PHILADELPHIA AND CANADIAN RENEEDLING PLANTS

1 Every job handled by experts with special modern equipment.

2 Each job kept intact on an individual truck throughout the process.

3 Bars are washed in a special fluid; scrubbed with revolving brushes.

4 Bars are straightened with a special device; brasses resurfaced; slots checked mechanically.

5 Bars are filled with Torrington needles; then straightened and gauged three ways; spaced also—by gauge.

6 Beards raised uniformly; checked by gauge for height and central setting.

TORRINGTON Spring Beard **NEEDLE**

—the needles

WERE GOOD

When you see a fabric like this you can be sure that much pains have been taken to produce it. Good materials were used. Good machines were operated by skilled workmen...and unquestionably—*the needles were good.*

Experienced knitters select their needles with as much care as they select their machines or their workmen. They know that it pays. It is no coincidence that so many of them are partial to Torringtons. For Torringtons live up to their standards for long life, strength, uniform smoothness and fine temper. Torringtons can be depended on because they are made by machines ...built to stand up under the punishment inflicted by modern high speed knitting production. *Your* knitting will benefit by their use.

The Torrington Company

ESTABLISHED 1866

Torrington, Conn., U.S.A.

BRANCHES:

THE TORRINGTON COMPANY,	1640 FAIRMOUNT AVE.,	PHILADELPHIA
THE TORRINGTON CO., INC.	200 FIFTH AVE.,	NEW YORK, N. Y.
THE TORRINGTON COMPANY,	538 SOUTH WELLS ST.,	CHICAGO, ILLINOIS
THE TORRINGTON COMPANY,	GUILFORD BLDG.,	GREENSBORO, N. C.
THE S. M. SUPPLIES CO.,	210 SOUTH STREET	BOSTON, MASS.
LOS FABRICANTES UNIDOS,	964 CALLE BELGRANO,	BUENOS AIRES

FACTORIES AT:

TORRINGTON, CONN. . UPPER BEDFORD, QUEBEC

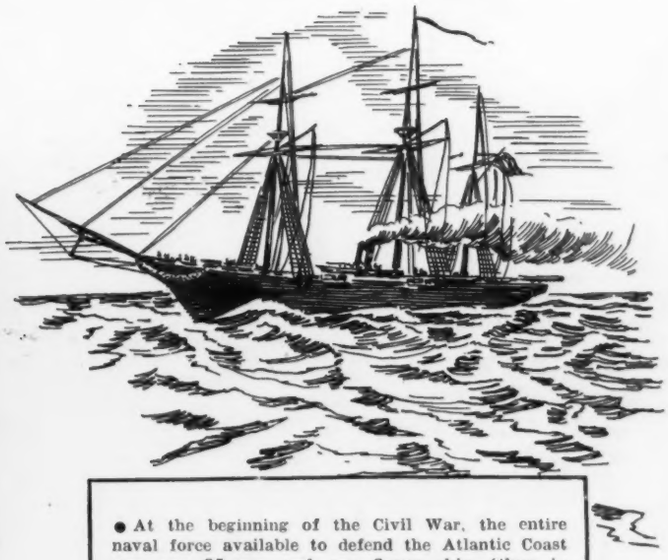
COVENTRY, ENGLAND AACHEN, GERMANY

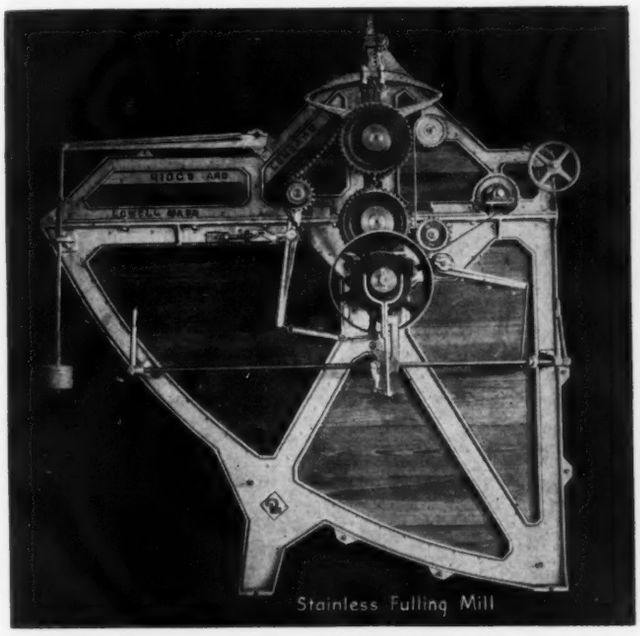
TORRINGTON NEEDLES

Latch

The Fleet — A TRIUMPH OF PROGRESS

The* KEARSARGE . . . *typical Naval Vessel of Civil War Days





● At the beginning of the Civil War, the entire naval force available to defend the Atlantic Coast was one 25-gun, and one 2-gun ship (then in Africa). Yet 4 months later 43 armed vessels were blockading Southern Ports—an aggregate of 578 guns and 6,800 men. Typical of these ships was the sloop-of-war "Kearsarge."

Typical of textile processing equipment today . . .

RL STAINLESS FULLING MILL

√
protects fabrics from damage

Continuous Cloth Washer
●
Stainless Fulling Mill Cloth Washer
●
Metal Piece Dye Kettle
●
Universal Sample Dye Kettle

● Initiative and speed characterizes the U. S. Navy—always equal to any emergency. These same qualities are what make successful textile executives initiative to recognize the merits of new equipment and speedy decision to use it.

For instance—if you use this modern RL Stainless Fulling Mill—there is no reason why any part of your fabric should be damaged on its long journey from loom to packing case.

This new Fleet Line Stainless Fulling Mill has reduced "dead loss" enough to save the entire cost on this single item ALONE—and did it in less than 3 years from date of installation.

Its performance is typical of each RL machine—reduced costs, better processing, lower fabric losses.

Take the initiative!—write us now—let us work with you to reduce textile costs in your mill as we have done in others, with FLEET equipment. Write RIGGS & LOMBARD, Inc., Lowell, Mass.

RIGGS AND LOMBARD
INCORPORATED

PERKINS BIN PILERS. These automatic machines eliminate hand labor and losses due to soilage, and snarling or knotting. They pay for themselves in less than two years.

Typical Perkins Bin Piler Installations:—

American Printing Co.
The Apponaug Co.
Arkwright Corporation.
Arnold Print Works.
The Aspinook Co.
Bellman Brook Bleachery.
Cannon Mills Co.
Chicopee Manufacturing Corp.
Clearwater Manufacturing Co.
Columbia Mills, Inc.
Cranston Print Works Co.
Dan River Cotton Mills.
Danvers Bleachery.
Delta Finishing Co., Inc.
Dodgeville Finishing Co.
Dutchess Bleachery, Inc.
Erwin Cotton Mills Co.
Fall River Bleachery.
Glenlyon Print Works.
The Hampton Co.
Johnson & Johnson, Inc.
Kerr Bl. & Fin. Works, Inc.
Lewiston Bl. & Dye Works.
Lincoln Bl. & Dye Works.
Llondale Bl., Dye & Pr. Wks.
Lowell Bleachery.
Millville Mfg. Co.
Montreal Cottons, Ltd.
Morgan & Hamilton.
Mt. Hope Finishing Co.
Nashua Mfg. Co.
North Carolina Finishing Co.
Pacific Mills (Lawrence, Mass.)
Pacific Mills (Lyman, S. C.)
Max Pollack & Co., Inc.
Pontiac Bleachery.
Providence Dy., Bl. & Cal. Co.
Queen Dyeing Co.
Rock Hill Print. & Fin. Co.
Rockland Finishing Co.
Rosemary Manufacturing Co.
Sayles Biltmore Bleacheries.
S. Slater & Sons, Inc.
Slatersville Finishing Co.
Standard Bleachery Co.
Stevens Linen Works.
Thomaston Bleachery.
Union Bleachery.
United States Finishing Co.
Utica Willowvale Bleaching Co.
Waldrich Bleachery.
Western Shade Cloth Co.

B. F. Perkins & Son, Inc., Holyoke, Mass.

Undisputed Leadership!

The WHITIN-CASABLANCAS SLUBBER

Standard Long Draft Roving System for Coarse Yarn Numbers

Twenty-Six Thousand Spindles in successful operation in this country. ● Feeding more than a quarter of a million Spinning Spindles.

No machinery investment you can make today will PAY for itself so quickly!

WHITIN MACHINE WORKS

CHARLOTTE, N. C. WHITINSVILLE, MASS., U. S. A. ATLANTA, GA.

For *Today's* Processing

"H-W" SILK CONDITIONER

"H-W" COTTON CONDITIONER

"H-W" RAYON CONDITIONER

"H-W" WORSTED CONDITIONER

"H-W" CONDITIONER FOR TWIST-SETTING

"H-W" HUMIDIFIER

"H-W" STEAMING TRUCK FOR RAYON

"H-W" CONDITIONING TRUCK

An "H-W" CONDITIONER for every job

H-W Conditioners are designed and built for today's operation, for today yarn conditioning is a science of vital importance. H-W Conditioners are completely automatic, making possible:

(1) absolute uniformity
(2) any desired temperature
(3) any relative humidity
(4) no condensation on material
(5) no live steam

The new principle of this apparatus makes it the only equipment that without sprays, compressors or pumps actually reduces water to a true vapor or gas, dispersing it evenly at any given temperature or humidity, AUTOMATICALLY. We not only state this as a fact but guarantee it.

The vapor or gas actually penetrates instead of merely soaking the exterior of yarn fibres. This results in uniformity and thorough conditioning. H-W Conditioners are fast, economical — accurate and dependable.

The new H-W Water Vapor Humidifier, without use of sprays, gives controlled humidity, makes heating more economical and helps reduce the temperature in the summer.

It will well repay you to write us for details or to have a man call and talk it over with you at your convenience.

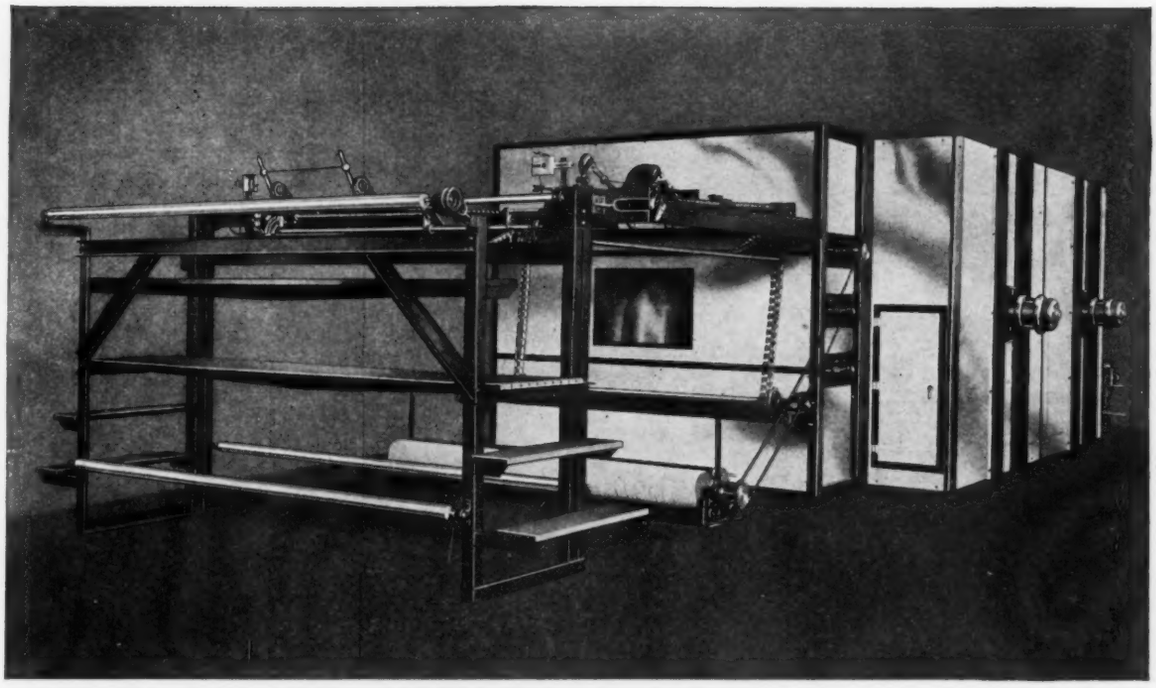
TEXTILE YEARBOOK and CONSOLIDATED CATALOGS

H-W Conditioners may either be purchased outright or rented on the H-W attractive Lease Plan.

A-22932

"H-W" CONDITIONER for POSITIVE Yarn Conditioning

THE INDUSTRIAL DRYER CORPORATION
Stamford · · · Conn.



This HUNTER TENTER Dries 10-oz. Felts At 30 Yards Per Minute *In Less Than 38 Lineal Feet*

The new Hunter Induced Draft (Patented) Tenter Dryer, embodying a totally new principle of air circulation, is setting new production records wherever it has been installed. For example—

A single section unit, occupying less than 30 lineal feet, installed in a Massachusetts woolen mill dries 16-oz. woolens at 15 yards per minute.

In suburban Philadelphia a single section unit, operating on 8-oz. cotton woolens, 36" wide, delivers 20 yards per minute.

In a large New England plush mill a two section unit, as pictured above, delivers brocades and velvets at 30 yards per minute. . . . Similar production records can be shown for mills in Michigan, North Carolina, New York, Maine, New Hampshire, Vermont, Pennsylvania, etc.

Write for full details on this new, totally automatic dryer requiring only one operator and using no heating coils between the layers of cloth, that is, air screened throughout, and which will deliver more yardage per lineal foot of floor space than any other known dryer.

JAMES HUNTER MACHINE CO., North Adams, Mass.

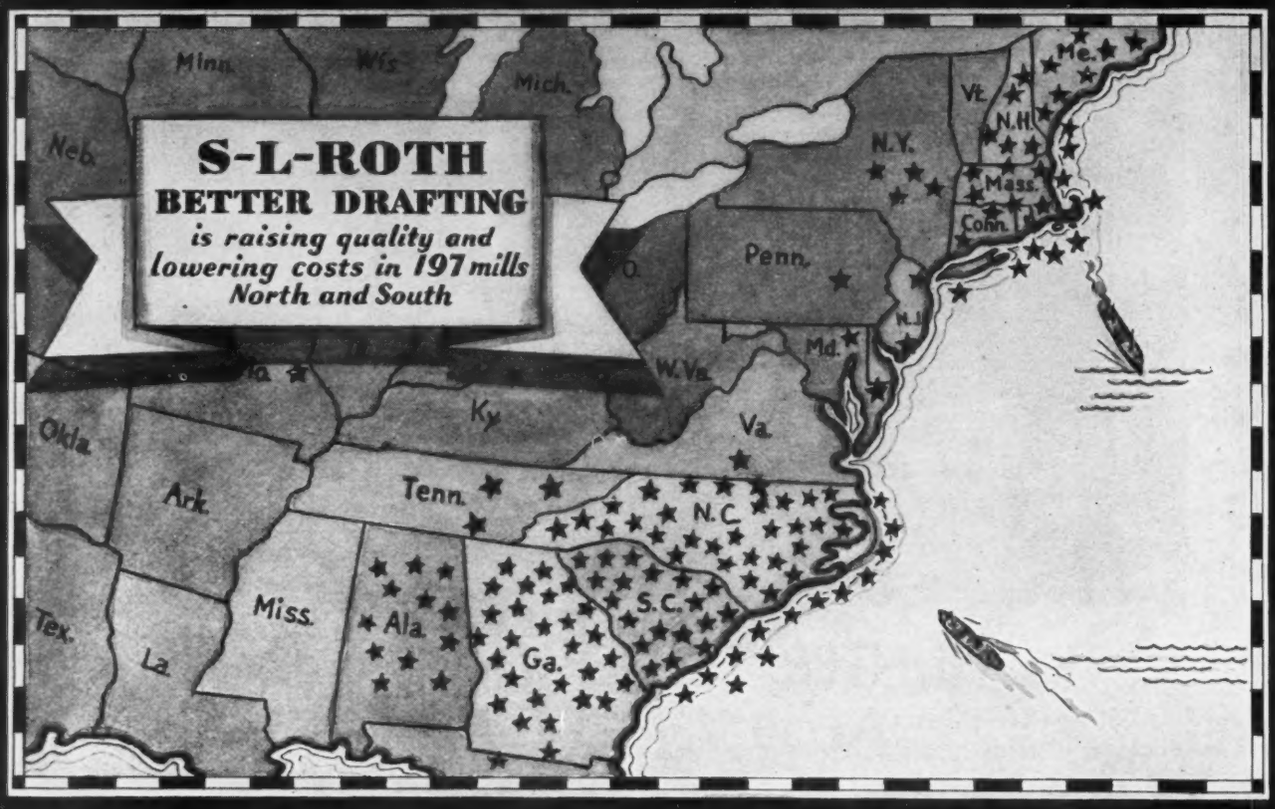
Please send full details on the Hunter Induced Draft Tenter Dryer. We would like full production figures for present installations.

Name_____

Mill_____

Address_____

15% of the active U.S. Spindles are now Saco-Lowell-Roth ("LONG DRAFT")



—An overwhelming preference for Saco-Lowell

Quality with Economy and Simplicity

Adopted usually because it reduces manufacturing costs, Saco-Lowell-Roth Spinning carries with it a "bonus" in the form of improved yarn quality—an improvement so important that this system has been adopted as standard equipment by mills producing the finest quality yarns. For further information write Saco-Lowell Shops, Boston, Charlotte, Greenville, Atlanta.

"Where quality yarn is spun, expect to find Saco-Lowell-Roth Spinning."

SACO-LOWELL-ROTH
BETTER-DRAFT SPINNING

Surprising...

how much value you will get from a *Houghton Size Check-up Test*

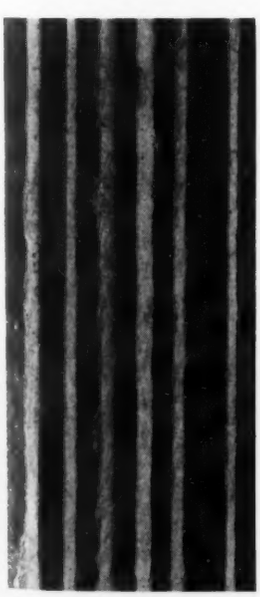
FOR EXAMPLE: Since Houghton began this specialized individual service for cotton mills, these are some of the headline accomplishments:

"4% Greater Weave Room Production"
"Loom Stops Reduced 50% By Better Sized Warps"
"Fly Reduced By One-Half"
"Strength Increased from 22% to 36% Over Unsized Warps"

All of these are results obtained on various check-up tests made at the request of mill men who sought to improve their sizing. These tests are conducted in your own plant, and we rest our case for Houghton's WARP CONDITIONERS on the results.

We know that you, too, will be pleasantly surprised at the outcome after you take advantage of our free offer.

SIZED



UNSIZED

E. F. HOUGHTON & CO.

240 W. Somerset St., Philadelphia

IF YOU WANT GREATER WEAVE-ROOM PRODUCTION AND LESS LOOM STOPS—SEND THIS:

HOUGHTON: How Can I obtain a Size Check-up Test free of charge?

NAME .....

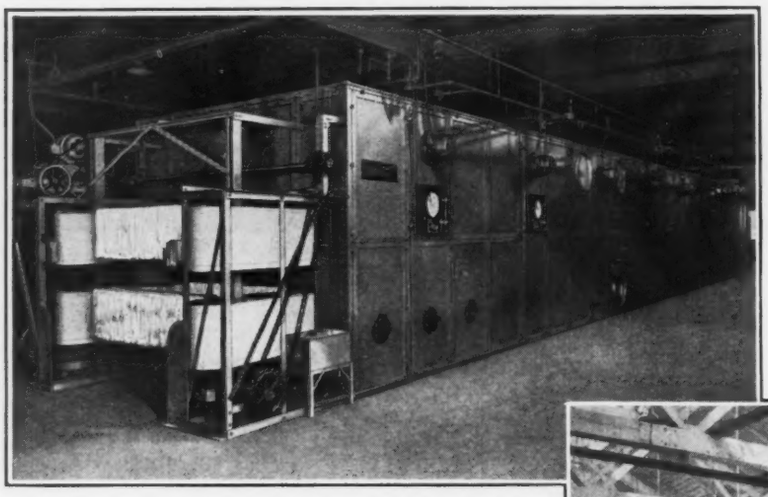
COMPANY .....

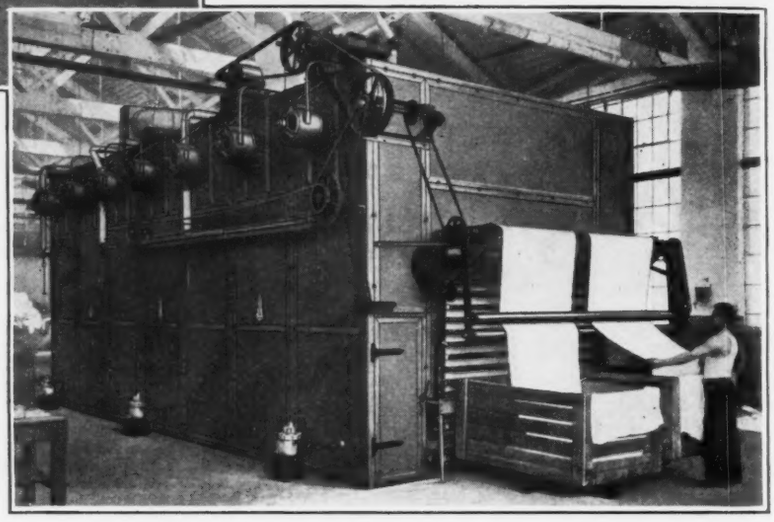
STREET .....

ADDRESS .....

TIMELY SAVINGS for Silk and Rayon Skein and Piece Dye Plants with these

New PROCTOR DRYERS





(Above) The New Proctor Automatic Yarn Dryer with Traveling Skein Protector. Here shown complete with automatic cooling and conditioning sections, in plant of Franklin Rayon Corporation, Providence, R. I.

(Right) Proctor Multipass Airlay Dryer in plant of Perennial Dye & Print Works, West Warwick, R. I.

TWO wonderful new Proctor Dryers . . . one for skeins; one for piece goods. Both are the talk of the trade.

For skein dyers and converters, there's the new Proctor Automatic Yarn Dryer with its unique traveling skein protector, an invention that has brought amazing improvement and savings over older type machines . . . perfect control of uniformity in drying and consequent better quality yarn . . . enormously increased output with resulting large savings in operating cost . . . easier adjustment of plant to new conditions of operation. No wonder there has been a record-breaking number of installations in times like these.

For piece dyers and finishers, there's the new Proctor Multipass Airlay Dryer. It offers much-wanted advantages over both the loop type and net type dryers . . . improved quality of goods from perfectly uniform drying, free from shading, free from tension . . . new speed and facility of operation . . . greater economy. A large group of installations . . . and users say they wouldn't be without this newest piece dryer, particularly for the new acetates, novelty goods, crepes.

There's a Proctor Dryer for every need of drying in Rayon and Silk production and processing . . . for every other textile, too . . . and each type is a lately and greatly improved machine with which we'd like to make you acquainted. Write

PROCTOR & SCHWARTZ • INC • PHILADELPHIA

"THIS IS THE SCOTT & WILLIAMS MACHINE AGE"

Here's a tuck design that's really different--just one of the almost unlimited number of new and unusual patterns you can produce on the SCOTT & WILLIAMS AUTOMATIC BODY MACHINE.

This new machine not only gives you a much more interesting and diversified pattern range for tuck fabrics; it also greatly increases your yarn scope . . . for lighter yarns can be used than before. It is designed to meet the open wear trend--and of course any of the tuck constructions now in popular use.

The sample shown here is an actual size reproduction of one of the new tuck designs it makes possible—this particular one is an extremely light weight fabric adapted to spring and summer wear.

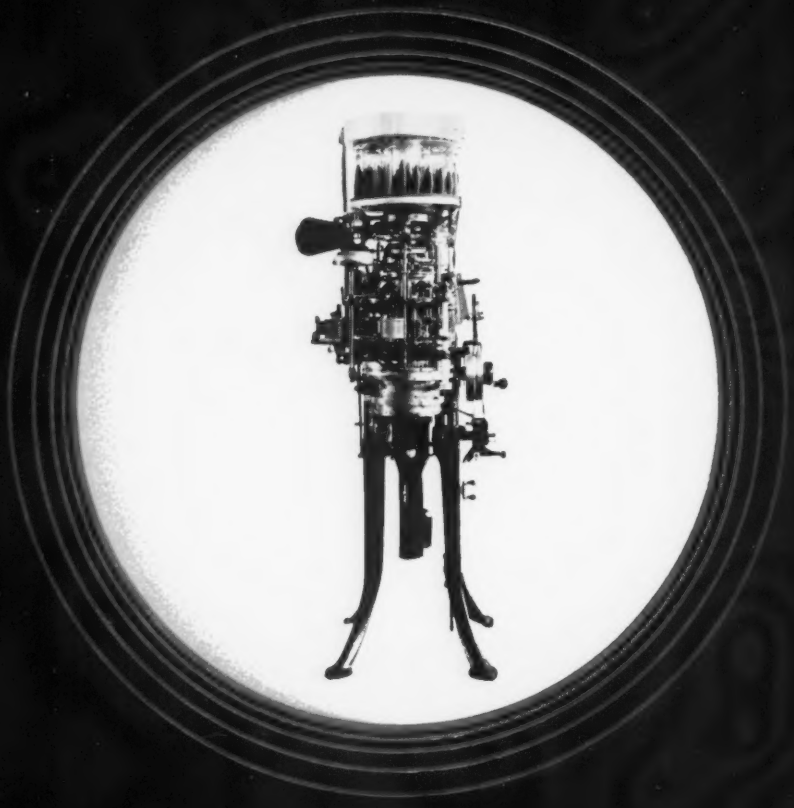
Give your line new smartness . . . real individuality and distinction with the merchandise you can produce on this versatile machine!

ESTABLISHED 1865

SCOTT & WILLIAMS

INCORPORATED

366 BROADWAY · NEW YORK · N. Y.



The One And Only

STANDARD 80W SHOG MACHINE

YES—the 80 Bobbin Wrap Shog Machine built by Standard is a high priced machine . . . and there is a limited price range for the merchandise it produces.

BUT—this machine is *unique*. EXCLUSIVE is the word that truthfully describes its products. No other machine offers so many pattern possibilities and produces such a wide variety of interesting effects in fine gauge men's half hose.

Forward looking mills, alert to the unusual advantages it presents, are smartening up their lines with its fine quality merchandise . . . and as a result are building up leadership and creating prestige that is carrying their staple business into new, larger fields with increasing volume.

Take advantage now of the opportunities this machine offers for creating and maintaining sales in the biggest and best markets.

STANDARD TRUMP

Established 1872

STANDARD-TRUMP
BROS. MACHINE CO. INC.

366 BROADWAY, NEW YORK, N. Y.

Why you can REDUCE WEAVING COSTS WITH THIS LOOM MOTOR

When you install G-E totally enclosed loom motors in your mill, you profit by lower over-all weaving costs because, electrically and mechanically, these motors are designed specifically for loom service. They have high efficiency and power-factor. Ample capacity provides for peak loads and for the breaking-in period and assures cool operation of the motor under normal conditions. As the motor is *totally enclosed*, no dust or lint can enter it. There is no objectionable air discharge near the warp. For further information, address General Electric, Schenectady, N. Y.

CHECK THESE DESIGN FEATURES

They give you exceptional performance, long motor life, and low maintenance

One-piece end shields lower expense of inspecting windings.

Removal permits full inspection of windings without disturbing motor mounting.

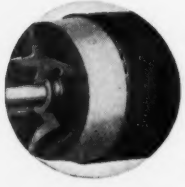
Accurately machined for concentric location of rotor.

Vibration-resisting stator keeps winding-repair costs low.

Laminations and frame securely clamped and riveted—cannot shift.

Rigid end frames assure permanent alignment.

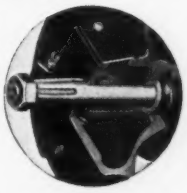
Stator-grounding lead provided.



Cast-aluminum rotor reduces rotor service costs.

No joints, no fans—nothing to work loose.

Rotor pressed and keyed on shaft for high mechanical strength.



Waste-packed bearings, accessible from outside, reduce servicing costs.

Large window for proper waste contact on top of shaft.

Removal of end shield unnecessary for examination of waste packing.

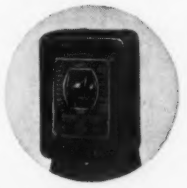
Lubricating system assures long service and low maintenance.

Twin filling holes allow oiling from either side of motor.

Easy to check oil level.

Filling holes—fitted with screw plugs—located so oil cannot overflow into motor.

Drain plug makes flushing and cleaning easy.



Sturdy pedestal-mounted control switch gives long, trouble-free service.

Heavy construction of contacts and moving parts assures long life.

Easily reset overload protection reduces maintenance and time loss.

020-228

GENERAL ELECTRIC

AUTOMATIC SELF CLEANING

Means a Lot

Consider These Points . . .

- Better Spray
- Automatically Self-Cleaning (both air and water nozzles)
- No Drip—No Feathering Down
- Improved Construction
- Maintains full capacity delivery
- Eliminates manual cleaning labor
- No waste of power

This, gentlemen, is what some atomizers look like after a few months of actual operation. ✓ Fortunately this is an AMCO No. 4 Atomizer — *the first automatically self-cleaning atomizer.* Both air and water nozzles are automatically cleaned whenever the compressed air supply is shut off. ✓ In spite of severe working conditions under which this Atomizer has been operating you will notice that the nozzles and the smooth, concave, hemispherical surface around them are perfectly clean. Lint and fly cannot accumulate around the nozzles, instead they are swept away by the rapid, streamlined currents of induced air. ✓ This Automatically Self-Cleaning Atomizer offers new possibilities for more efficient humidification in new work or on present systems.

AMERICAN MOISTENING COMPANY

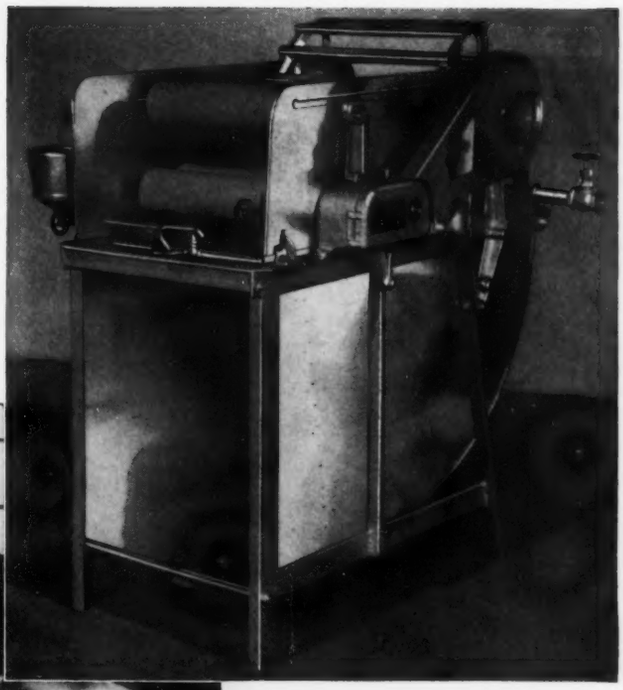
Established 1888

PROVIDENCE, RHODE ISLAND

ATLANTA, GA. • BOSTON, MASS. • CHARLOTTE, N. C. • GREENVILLE, S. C.

Another evidence of the progressiveness and leadership of the American Moistening Company in producing efficient humidification equipment for the Textile Industry.

Samples O.K.



THE LOT O.K.

WHEN SAMPLING MACHINES AND DYE TANKS ARE LINED WITH STAINLESS ENDURO

Dye plants experience no difficulties in meeting converters' requirements when sampling machines and dye tanks are lined with ENDURO . . . Republic's perfected stainless steel. This unusual metal does not react with the dyestuffs, nor is it affected in any way by the dyehouse atmosphere. Its surface is always meticulously clean, and is easy to keep that way. Therefore, when samples have been approved, the entire lot will be a true color duplicate . . . free from "color effects," and minus the rejections and re-dye costs common to ordinary equipment. There are other advantages, too, in the use of ENDURO for dyehouse equipment. Republic will be glad to send you the complete story on ENDURO, the perfected stainless steel. » » » » »

REPUBLIC STEEL

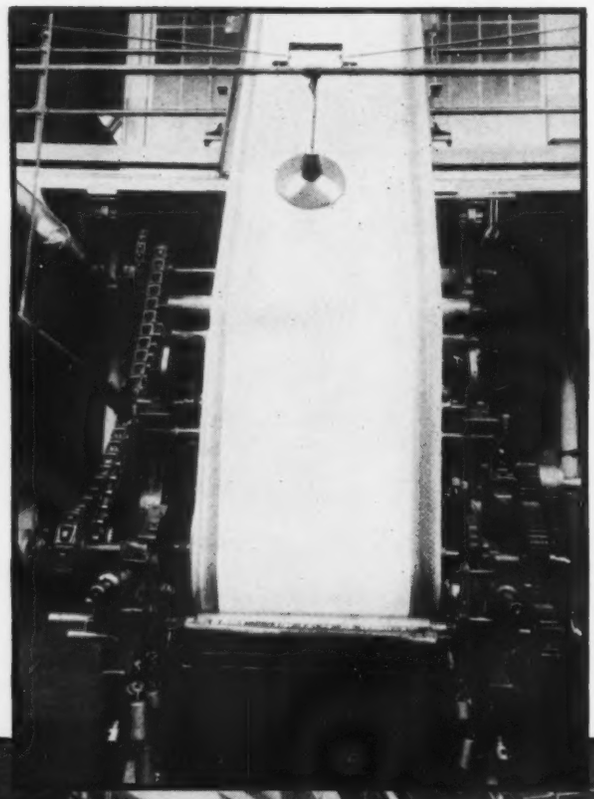
Republic Steel CORPORATION

CENTRAL ALLOY DIVISION, MASSILLON, OHIO
GENERAL OFFICES: YOUNGSTOWN, OHIO

ENDURO
REPUBLIC'S PERFECTED
STAINLESS STEEL

For Fine Printing of Difficult Patterns
Depend Upon "U.S." Mackintosh Blankets
with SMOOTH JOINT

"U.S." Mackintosh Blankets which eliminate a seam mark have proven an outstanding success in textile printing. These superior blankets have shown time and time again that they will successfully run fine patterns which are impossible with blankets that make seam marks. Many prominent textile printers have standardized on "U.S." Mackintosh Blankets both because of their rugged construction and their remarkable success with difficult patterns, which the new Smooth Joint has made possible.



The installation illustrated is at the Glenlyon Print Works, which concern operates fifteen printing machines using "U.S." Mackintosh Blanket 20 yards long, 44 to 50 inches wide, six ply; all with *SMOOTH JOINTS.*

"U.S." engineering and "U.S." workmanship are your assurance of unrivalled quality in all types of mechanical rubber goods for the textile industry. All information at your disposal without obligation.

UNITED STATES RUBBER COMPANY — US — TRADE MARK

Mechanical Goods Division
United States Rubber Products, Inc.
1790 Broadway New York, N. Y.
Stocks in all Industrial Centers

United States Rubber Company

PONSOL* GOLDEN ORANGE 4G PASTE

(PATENTED)

A new duPont vat dye especially suitable for materials, such as drapery fabrics, requiring extreme fastness to light and weather

PONSOL* Golden Orange 4G Paste (Patented), a new development in the range of du Pont Vat Dyestuffs, is a yellowish shade of orange possessing very good fastness to light, weather, chlorine, and washing. It is especially valuable for use on those materials requiring the highest degree of fastness to light and weather.

It is a "cold dyeing" type and is particularly useful as a shading color when used in combination with other vat colors of this class.

Being carefully controlled for physical properties, a maximum ease of application is insured.

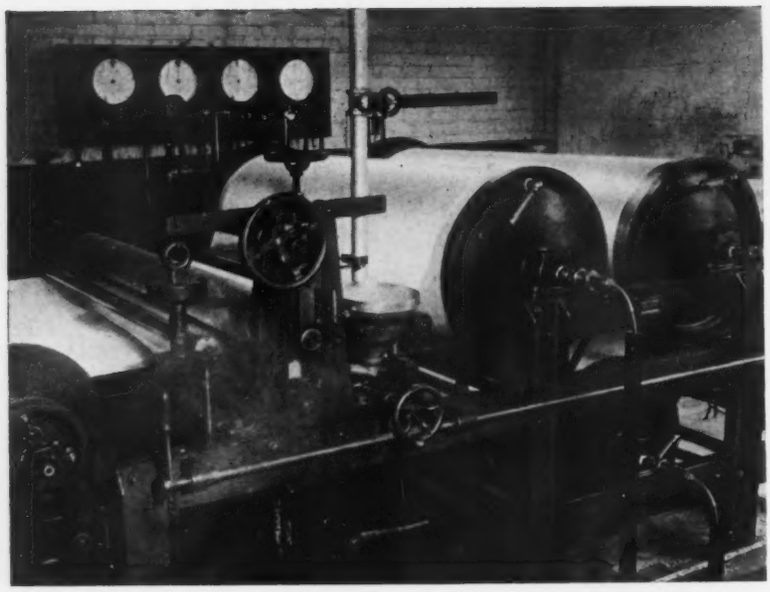
Why not send for samples *today*?

*REG. U. S. PAT. OFF.

DU PONT DYESTUFFS

REG. U.S. PAT. OFF.

E. I. DU PONT DE NEMOURS & CO., I
Organic Chemicals Dept.
Dyestuffs Division, Wilmington, D



FOXBORO ENGINEERED SLASHER CONTROL
ON RAYON SLASHER

Where can YOU *save?*

—In Your Slashing?

The Foxboro Slasher Control System is *completely engineered:* It controls the temperature of the size in size cooker and storage, the level and temperature in the size box, and the temperature of drying cylinders, to give you these advantages:

Yarn of greater tensile strength
Increased weaving efficiency
More uniform dyeing
Size easily scoured out
Possibility of mildew eliminated.

—Skein-Dyeing?

A Foxboro Time Cycle Controller is the key unit in the specially designed skein control. It keeps the dye going over the skeins, then stops the entire operation at exactly the right time. A Temperature Controller maintains correct dyeing temperatures and a Liquid Level Gauge shows dye level. Result: fewer seconds, better matching of shades and a saving in steam costs.

Humidity Control?

From Foxboro you can get the exact type of humidity instrument you require. Here is a complete line of Indicators, Recorders or Controllers with sensitive elements of special membranes, or wet-and-dry bulbs. Controllers may operate fans, dampers, motors and valves either by air or by electricity.

Your nearby Foxboro Engineer can supply complete, specific details. Or, write us for any information you require. Address, Textile Division, The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A., *Atlanta Office:* 161 Spring Street Building.

Branches in 19 Other Principal Cities

FOXBORO
REG. U. S. PAT. OFF.

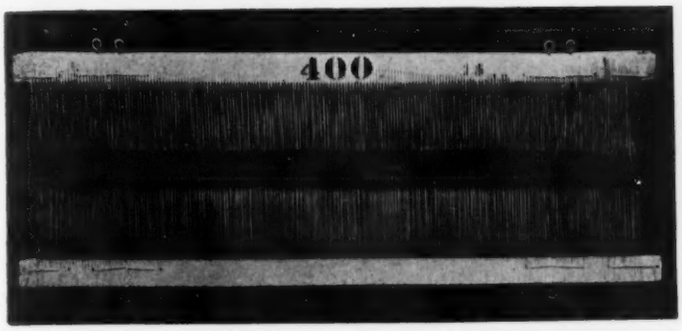
COMPLETE
TEXTILE MILL INSTRUMENTATION

EMMONS MAKES EVERYTHING

. . . *Anything you need in the line of Loom Equipment for Better Weaving*

Chafeless Cord

--for fine cover on fine goods



More mills use Chafeless Cord than any other cotton harness made, for this Super-Smooth harness with the Warp-Saving Finish builds up better cover; lessens loom stops due to warp breaks; lasts longer.

Emmons STEEL HEDDLES

—backed by 68 Years Experience

To produce a "chafeless" Steel Heddle; one that reduces warp friction to its lowest coefficient—we use 60 separate polishing operations to bring the inside of the eye to a glass-like, super-smoothness.

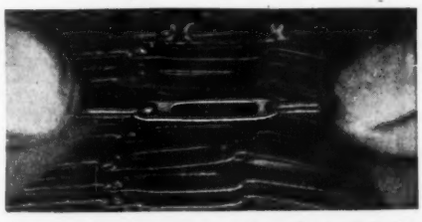
Another feature of Emmons "Chafeless" Steel Heddles is the Long-Life Plating, both cadmium and nickel.

Mill men tell us that these steel heddles start up better; that they make a better looking piece of cloth.

Let us send you samples of the sizes and styles you use. We have a full line of all standard types and sizes, made up and stocked for prompt delivery.

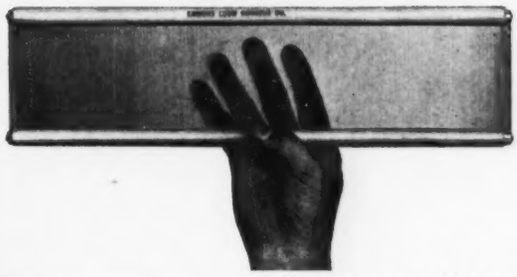
Non-Slip MAIL EYE HARNESS

—for coarse and medium weaves



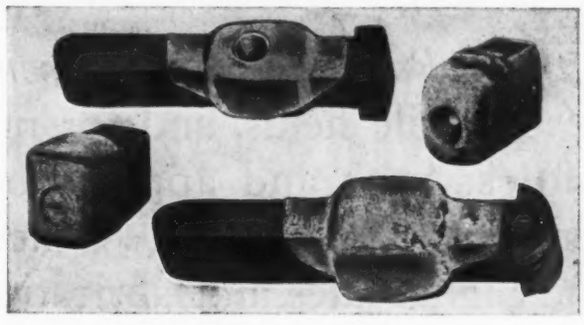
Light as cotton—strong as steel, combining the streamline steel eye, with cotton harness flexibility. Adapted for the drawing-in machine. Equip a section with Emmons Non-Slip Mail Eye and improve production.

METAL and PITCHBAND REEDS



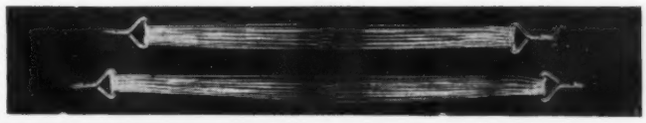
Emmons makes a complete line of All-Metal Reeds with the added flexibility and super-smooth finish you need for weaving rayons. Also Precision-Manufactured Pitchband Reeds, "Custom Made" to your requirements. Quick deliveries.

LOOP and DOLL PICKERS



As exclusive selling agents for Wardwell Pickers we have in stock complete assortment of all types —for immediate shipment.

Emmons SELVAGE HARNESS



Cotton and Mail Eye Tape Selvages up to 24 inch depth —for use with either Cotton Harness or Steel Heddles.

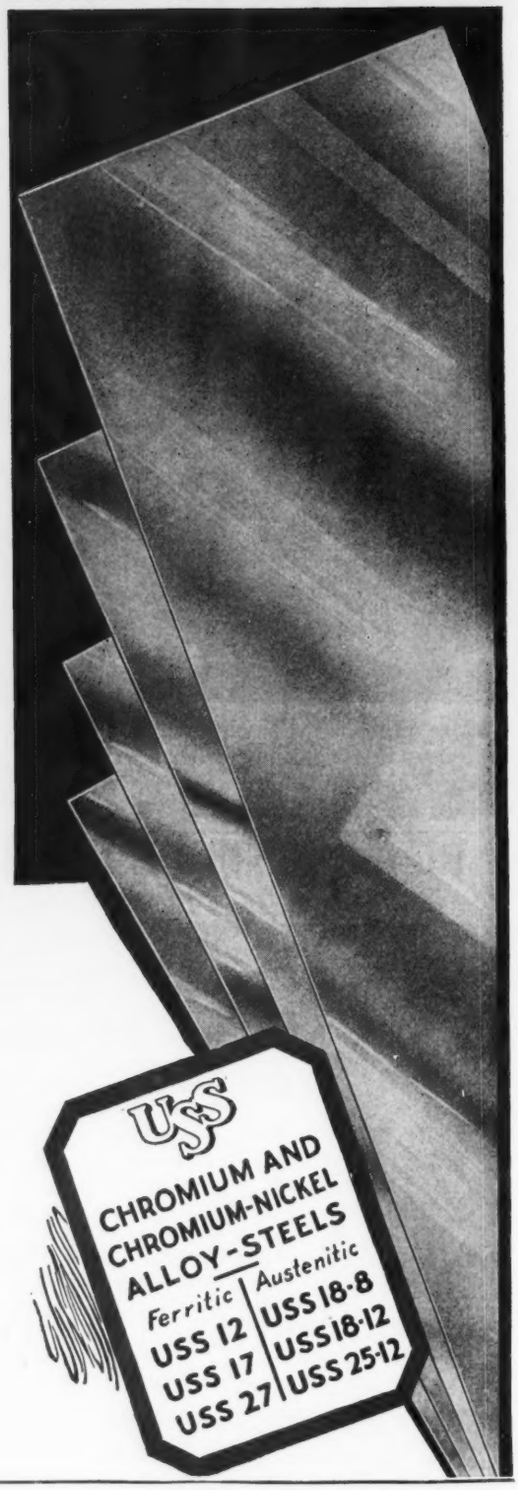
ALSO Mending Eyes and Twine; Beamer and Dresser Hecks; Heddle Frames; Warper and Leice Reeds; Slasher and Striker Combs.

Prices and full information on all items on this page gladly furnished on request.

EMMONS LOOM HARNESS CO.

LAWRENCE, MASS.

AMERICAN USS STAINLESS AND HEAT RESISTING STEEL SHEETS



FOR Particular Requirements in textile fields, and for practically endless uses and applications—the series of USS STAINLESS Steel Sheets and Light Plates, and fabrications made from them, can be expected to render the maximun of endurance combined with wide utility and ultimate economy. Write for information and literature.

USS Chromium-Nickel Alloy Steels produced under licenses of the Chemical Foundation, Inc., New York; and Fried. Krupp A. G. of Germany.

AMERICAN SHEET AND TIN PLATE COMPANY, *Pittsburgh* - - - - - - - - SHEETS AND LIGHT PLATES
AMERICAN STEEL & WIRE COMPANY, *Chicago* - - - - COLD ROLLED STRIP, WIRE AND WIRE PRODUCTS
NATIONAL TUBE COMPANY, *Pittsburgh* - - - - - - - - - - - PIPE AND TUBULAR PRODUCTS
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago* - - - - - - - - - - BARS, PLATES, SHAPES, SPECIAL AND SEMI-FINISHED PRODUCTS

Pacific Coast Distributors—COLUMBIA STEEL COMPANY, San Francisco, Calif. *Export Distributors*—UNITED STATES STEEL PRODUCTS CO., New York, N. Y.

United States Steel USS STEEL *Corporation Subsidiaries*

USS STAINLESS AND HEAT RESISTING STEELS

Should Spinners be **Double-Jointed?**

Sometimes you'd think so . . . to see them trying to do *two* jobs —*tending* their frames and *cleaning* them.

Let spinners *spin* and a Parks Automatic Cleaner do the *cleaning*. For no matter how well a a spinner can clean, a Parks Cleaner can do it better. This equipment cleans mechanically, regularly. It eliminates slugs, gouts, bunches. It greatly reduces breakage, loom stoppage, seconds; improves production in quality and quantity. Pays for itself in short order.

There are two types of Parks Cleaners—though *both* have the same automatic operation. One type is mounted on the creel board, travels lengthwise, cleaning as it goes. The other—the Bunchless cleaner — runs on monorails mounted on the ceiling, cleans regularly, efficiently.

Send the coupon below for complete information about Parks Automatic Cleaners and the economies they effect. Or check the line on the coupon that will bring a Parks engineer to *explain* what they'll do for you — how they can improve production.

PARKS-CRAMER CO., FITCHBURG, MASS . . . CHARLOTTE, N. C.

PARKS

Traveling Cleaners

Gentlemen: Please send me Bulletins on Parks Automatic Cleaners ☐ You may have an engineer call ☐ (Please check)

Name .....

Company .....

Address .....

City ..... *State* .....

2017

NOT A THOUSAND - - - NOR A MILLION BUT

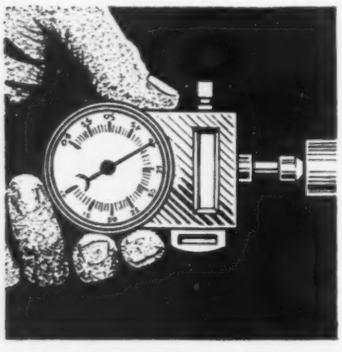
COUNTLESS SPEEDS

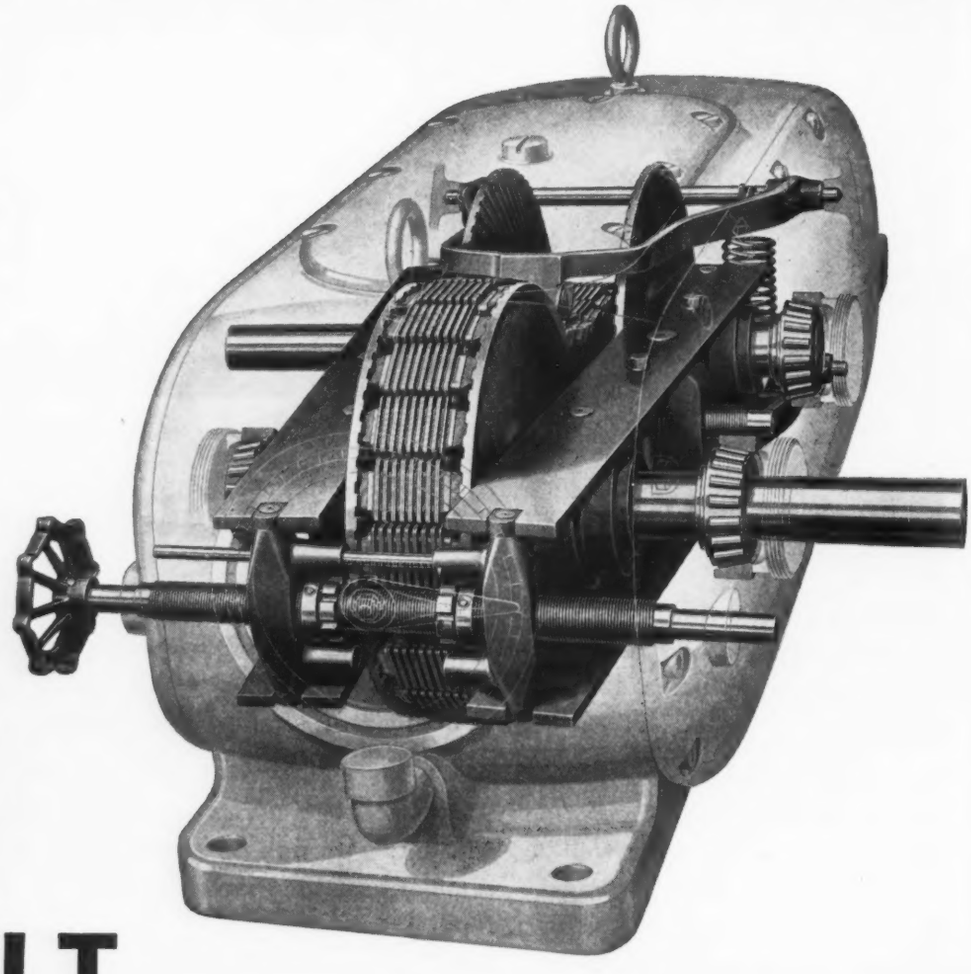
AT THE TURN OF A HANDLE

INFINITE variation—fractional-revolution speed changes made and maintained with micrometer precision . . . with the Link-Belt P.I.V. Gear.

Tooth-to-tooth contacts of its unique drive chain with conical wheels, do not permit slip.

Compactness and flexibility of application are other outstanding features of the P.I.V. Gear. It is now available for horizontal and vertical mounting of the basic unit; also motorized, and with gear reduction sets. Send for new Book No. 1574.





LINK-BELT P.I.V. GEAR

POSITIVE INFINITELY VARIABLE SPEED CONTROL

LINK-BELT COMPANY

The Leading Manufacturer of
Positive Power Transmitting Equipment

PHILADELPHIA — CHICAGO
INDIANAPOLIS — ATLANTA
SAN FRANCISCO — TORONTO
BOSTON — NEW YORK
BALTIMORE — DALLAS

Offices in Principal Cities

5489

USE YOUR F H A CREDIT

•

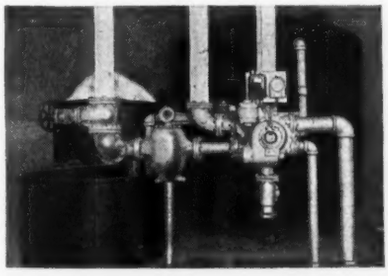
Install Permutit Self-Liquidating Equipment

At last the means for mill modernization are available. The terms of the National Housing Act provide for loans up to $50,000 to responsible textile mills. These loans are not made by the Government, but by your own banker, or they can be arranged through Permutit. The terms of payment allow gradual liquidation over a period of years.

Now you can purchase Permutit Water Conditioning Equipment. Permutit's record for savings proves that such equipment pays back its entire cost, usually within two years. Savings start immediately. That means that your monthly loan payments will be more than covered by the reduced operating costs effected by Permutit.

How does Permutit save money? Records of Permutit installations in several thousand American textile mills show that conditioned water used in wet-processing reduces reruns, rejections and yarn breakage . . . saves soap, soda and bleach . . . keeps boiler-tube repairs and replacements to a minimum. Experts agree that mill supply water *must* be absolutely clear, soft and colorless to enable finished fabrics of high quality to be produced. Therefore, Permutit cuts costs and raises quality . . . a double benefit!

Act now. Mail this coupon for complete details about this new plan and our free booklet, "Reducing Textile Costs and Troubles."



Bring your old equipment up to date. Install Permutit's new single-valve automatic control, and refill your softener with Super-Zeo-Dur. This new greensand zeolite has been recently perfected . . . it uses less salt and has a higher capacity for softening water than ever before. Write for details.

Permutit
Water Conditioning Equipment

The Permutit Company, Dept. B, 330 West 42nd St., New York City

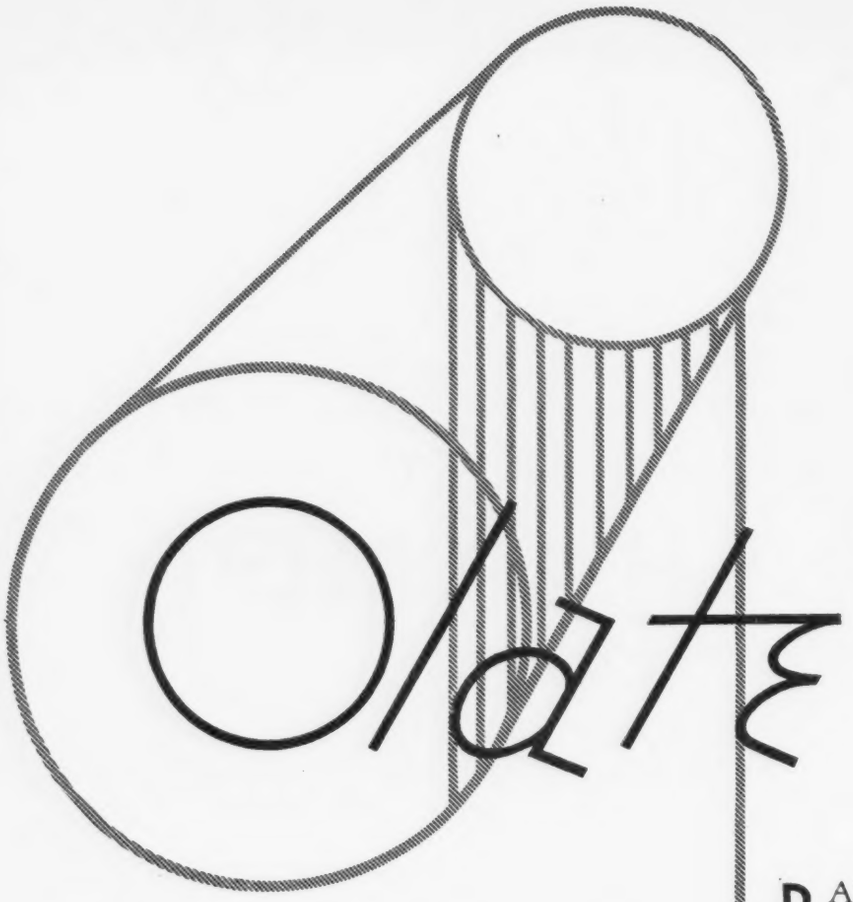
Please send me without obligation your latest booklet, "Reducing Textile Costs and Troubles," and complete details about purchase of Permutit equipment under the terms of the F H A.

Name .....

Position .....

Company .....

Address ..... City .....



OLATE'S SOFT, THIN FLAKES

GIVE YOU BETTER LUBRICATED

• • RAYON FIBERS • • •

RAYON fibers are off to a good start when you give them the protection of Olate soaking. The greater softening properties of this pure neutral soap assure more thorough, even lubrication of the fibers, smoother twist, better protection against fuzziness and broken ends.

Olate gives you better soaking, scouring, dyeing and finishing results on any type of rayon—viscose, cuprammonium, or acetate. It will help to provide even shrinkage and to give your finished fabrics that clean, soft beauty which takes the guesswork out of saleability.

Have you tried Olate? This exceptionally low titer soap is helping many important manufacturers and dyers of rayons and acetates to get complaint-proof results in their processing operations. You will find it an equally good investment.

PROCTER & GAMBLE
General Offices — Cincinnati, Ohio

The consumer . . the retailer . . the hosiery manufacturer . . the needle manufacturer — all stand to gain when the needles produce a clearer, sheerer fabric at a lower cost. That we are America's largest producers of Spring-Beard Needles and that nearly all manufacturers of fine quality silk stockings are standardized on Royersford Needles is a tribute to profitable performance.

ROYERSFORD NEEDLE WORKS, INC., ROYERSFORD, PENNSYLVANIA

Southern Office: Provident Bldg., Chattanooga, Tenn. • Louis Hirsch Textile Machines, Inc., Special Representatives

ROYERSFORD NEEDLES

A CERTAIN MILL was "fed up" with the amount of soap needed to scour pulled wool. In addition, occasional lots gave trouble in carding, spinning, and also in dyeing. Carding difficulties as well as uneven dyeing and "crocking" were traced to the presence of considerable lime soap on the fiber. This resulted from the combination of scouring soap with the lime compounds used in pulling the wool.

To remedy this condition, GARDINOL (LS Paste) was used for scouring. Immediately, a marked improvement appeared in the scoured wool and in subsequent processing. The wool itself was brighter, softer, and entirely free from any traces of stickiness. It carded more easily and left the cards cleaner.

Because the GARDINOL-scoured wool was clean and free from gummy deposits, spinning produced more even yarn. The removal of these "resist" deposits on the fiber surfaces permitted uniform dyeing, well exhausted dyebaths with "crocking" materially reduced.

It's a smart idea to investigate the many uses of GARDINOL. The quickest way to get this information is to contact a representative of one of the sales agents listed on this page.

"Gardinol" is the registered trade mark used by the Gardinol Corporation to designate its sulfated higher alcohols

***GARDINOL WA *GARDINOL LS**
(*Patented)
AVAILABLE IN BOTH FLAKE AND PASTE FORM

GARDINOL CORPORATION, GENERAL OFFICES, WILMINGTON, DEL.

SALES AGENTS

Procter & Gamble, Cincinnati, O. National Aniline & Chemical Co., N.Y.C.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

SOLVE YOUR LUBRICATING PROBLEMS

through the SINCLAIR BUREAU OF STANDARDS

Many textile mills are reducing end breakage, also lengthening bearing and spindle life through the services of the Sinclair Bureau of Standards.

The problem of end breakage on fine count yarns was submitted by a concern operating 26 mills. Spindles were set up and tests conducted in the Bureau's laboratory. Sinclair engineers developed a high grade spindle oil which eliminated the frictional drag and sluggish action responsible for excessive breakage.

Another case involved correct lubrication for recently introduced anti-friction bearings. A suitable grease developed by the Bureau solved the problems of clogging, overheating and consequent shut-downs for repacking.

As a result of this and similar work by the Bureau, leading textile equipment manufacturers recommend Sinclair lubrication.

For information about the application of the Bureau's service to your problems, call your local Sinclair representative. Or write to Sinclair Refining Company (Inc.), New York, Atlanta, Chicago, Houston, Fort Worth, Kansas City.

SINCLAIR

Copyrighted 1935 by Sinclair Refining Company (Inc.)

INDUSTRIAL OILS • HEATING OILS • GREASES

WHAT ARE THE COTTON, WOOLEN, WORSTED AND LINEN YARN-NUMBER EQUIVALENTS OF 300-DENIER RAYON? *See* .....

WHO ARE THE SIX MANUFACTURERS OF STROBOSCOPES? *See* .....

WHAT ARE THE NORMAL MOISTURE REGAINS OF COTTON, WOOL, SILK AND RAYON? *See* .....

WHAT TESTING MACHINES ARE CLAIMED TO BE "THE STANDARD OF THE WORLD"?

See .....

Typical run-of-mill questions. Questions that are bobbing up every moment in the front office, out in the mill, in the bleachery, in the machine shop, in the power plant—everywhere.

How much telephoning and chasing around it often takes to find those who happen to know the answers! And there really is no need of going to the trouble of organizing a man-hunt to get such questions answered.

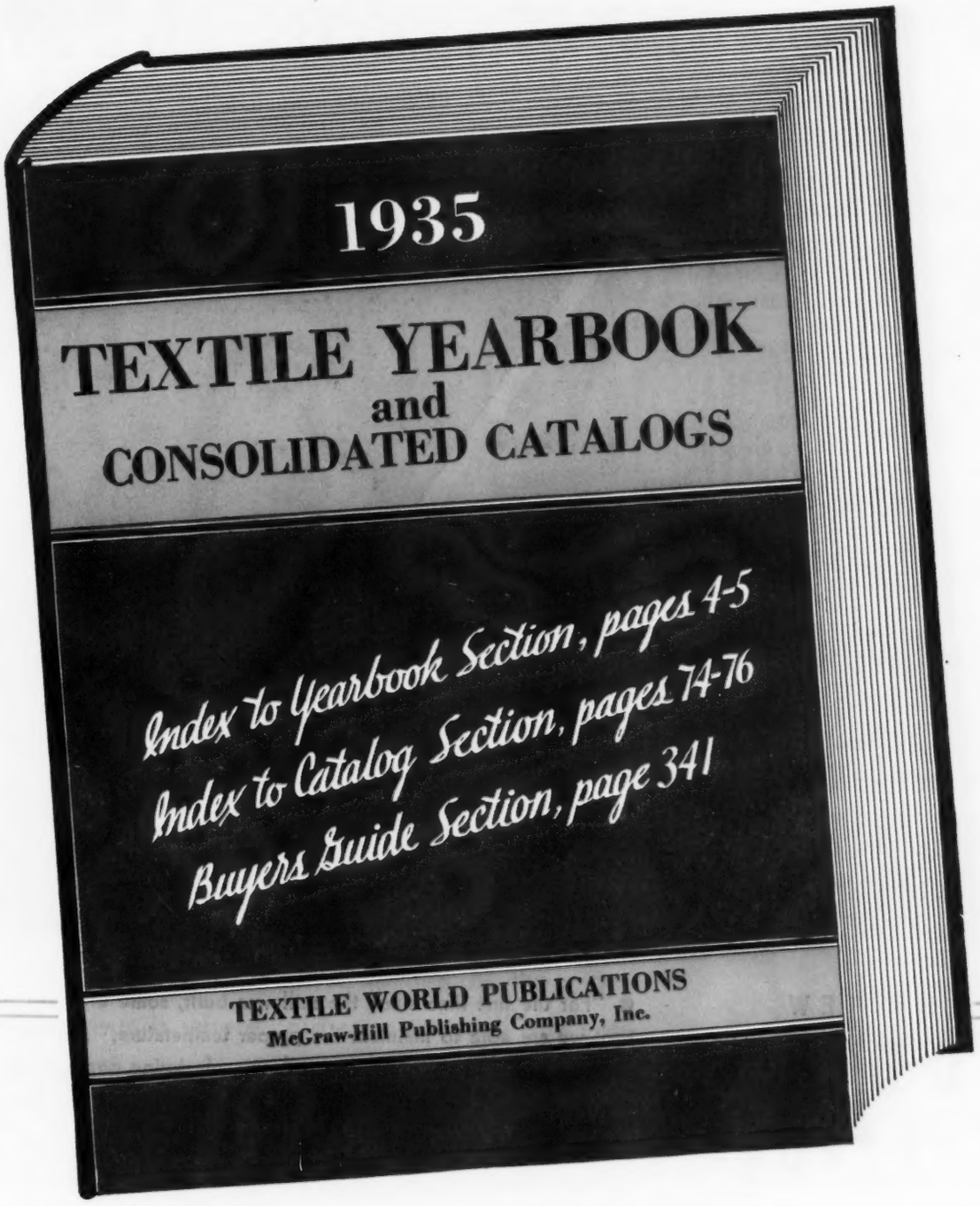
The *Textile Yearbook and Consolidated Catalogs* is designed to save the time of mill men in getting the latest information on equipment, materials, processes, textile standards and tables, comparative prices, books, etc. Its function is three-fold.

It is a *Catalog* because it supplies complete data on important textile machinery, equipment, accessories and supplies. It describes briefly the new equipment of the past year.

It is a *Buyers' Guide* because it offers a *complete* classified index of all products used in textile mills.

It is a *Yearbook* and *Handbook* because it brings to every mill man an editorial service, revised annually, that answers the thousand-and-one questions that arise daily in mill operations.

A copy has been sent to your mill. Cultivate the good habit of referring to it. You'll find it an every-day work tool. Attesting to this fact are letters from hundreds of mill men who are using it daily.



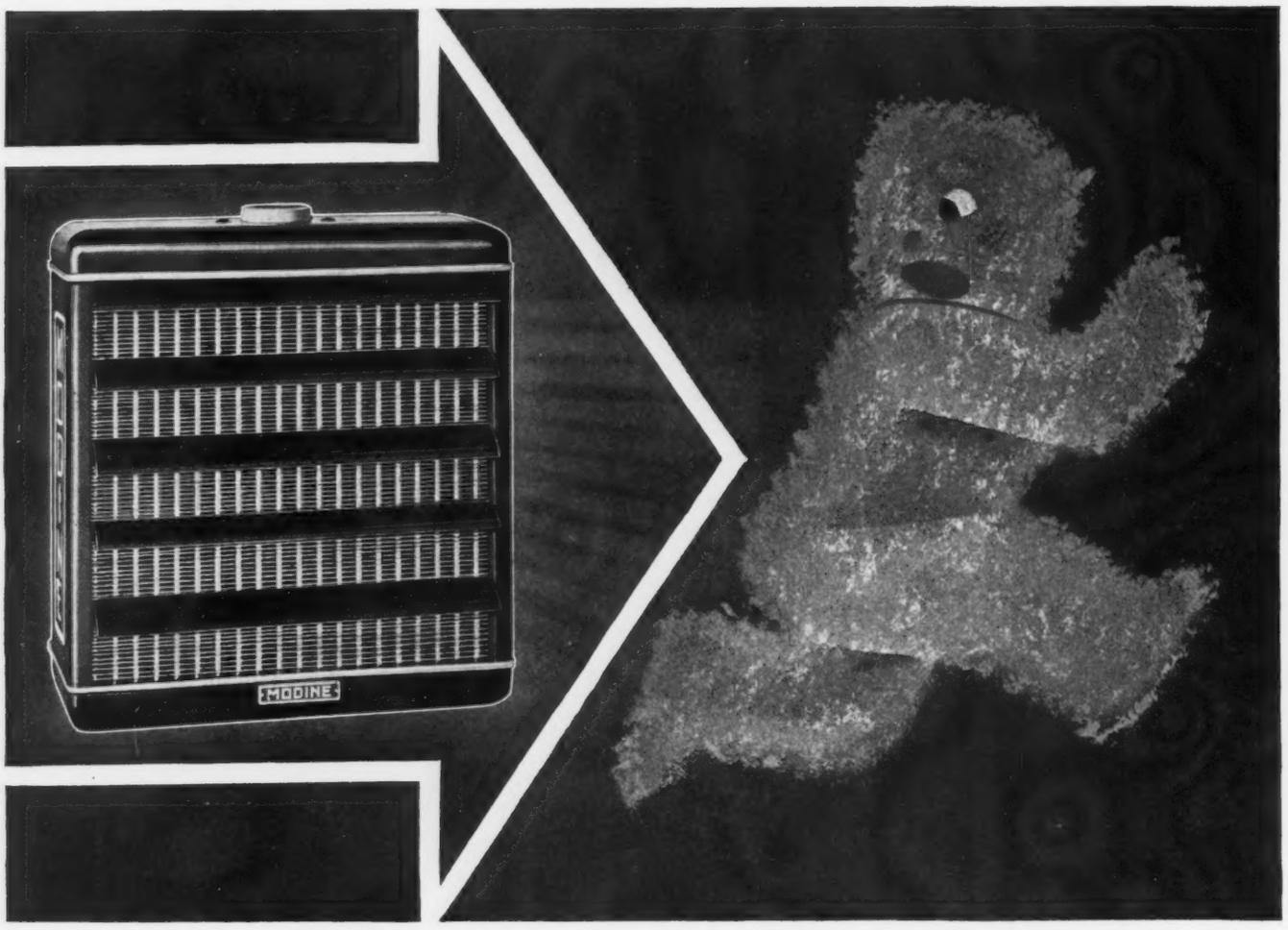
The men who wrote these comments know where to get the right answers

"Sections 1 to 12 contain technical data that any mill man will appreciate immediately. The succeeding catalog pages save a lot of time looking up information on manufacturers of textile machinery, etc., and there is nothing that can be criticized in this most important publication" . . . *A manufacturing official.*

* * * * *

"It is one of the best works of its kind if not the best that we have had the pleasure of using. Every superintendent should have it available at his finger tips" . . . *Mill superintendent.*

GOOD-BYE MR. LINT



THE NEW

MODINE Textype

UNIT HEATER

is

specially designed to pass lint

● "For the first time since the mill was built, some eighteen years ago, we are able to maintain the proper temperature," said the mill superintendent of a prominent textile manufacturing company, referring to the new Modine *Textype* Unit Heaters recently installed.

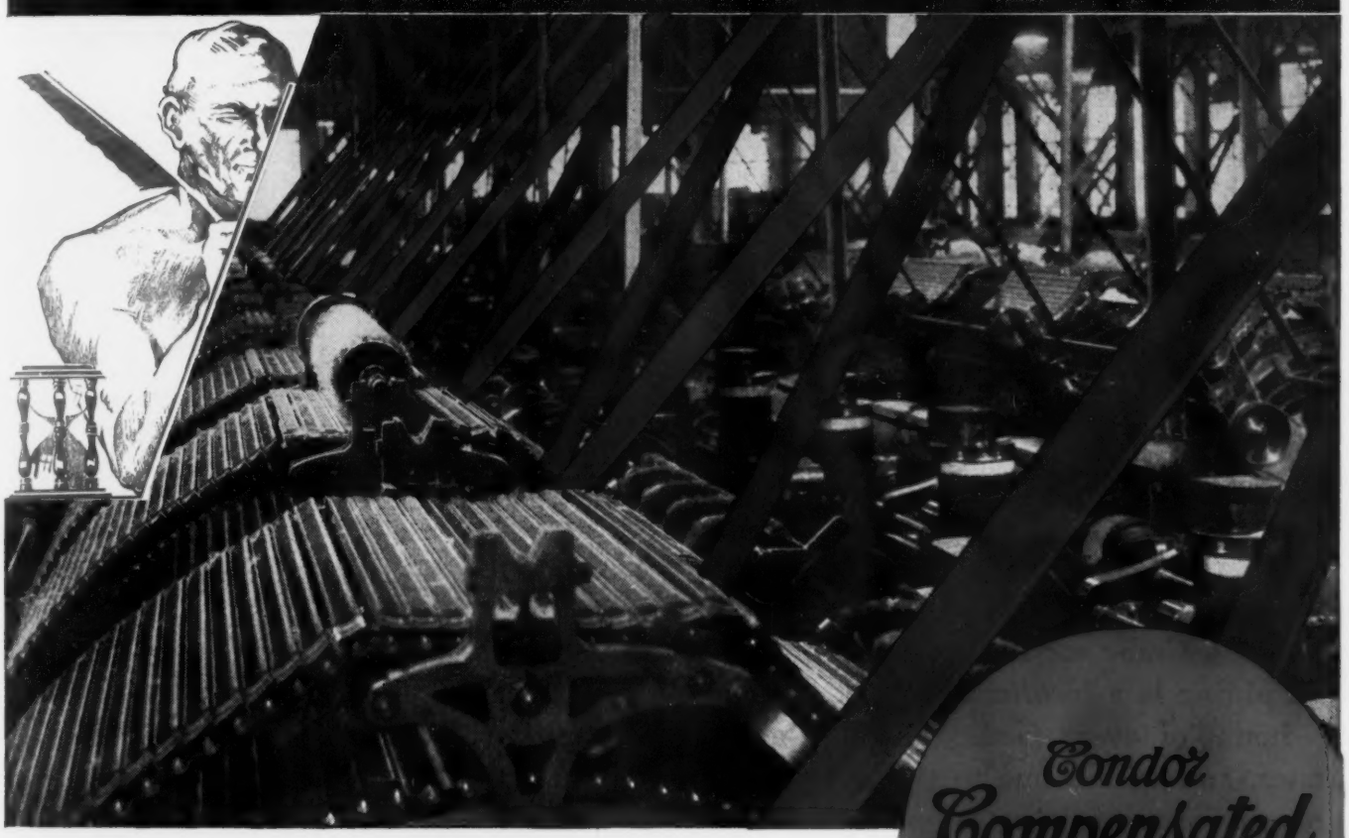
● Then why didn't they install unit heaters long ago? Because ordinary unit heaters became clogged with lint. And the problem was not solved until Modine engineers, in collaboration with leading textile mill engineers, developed the new Modine *Textype* Unit Heater—patents granted and applied for—*specially designed for passing lint.* Even in picker rooms, card rooms, and breaking rooms, *Textype* heaters require cleaning no oftener than does other textile machinery. In most rooms, *Textypes* seldom require cleaning.

● *Textype* Unit Heaters will cut fuel costs from 13½ to 25 per cent. And the repair bills that the old pipe coil system is piling up will be saved, too. These combined savings will pay for the replacement in a few short years. Write for details on the New Modine *Textype* Unit. *Modine Manufacturing Company, 1755 Racine Street, Racine, Wis.*

MODINE MANUFACTURING COMPANY

HEATING, COOLING AND AIR CONDITIONING EQUIPMENT FOR INDUSTRIAL, COMMERCIAL AND DOMESTIC APPLICATION

OLD MAN SERVICE WRITES THE RECORD OF



Condor Compensated PATENTED BELT

THE LOW TENSION RUBBER BELT WITH EQUALIZED PLY STRESSES OVER PULLEYS

This typical card room drive is one of the many testing grounds where "old man service" has verified the laboratory promise of Condor Compensated Belt. On every type of textile mill drive this remarkable low tension rubber belt has been successfully tested. Flexible for small pulleys, handles peak loads without slip, holds fasteners longer, and plies do not rupture, because stresses over pulleys are equalized. Operation is less affected by atmospheric conditions. Join the increasing group of Condor Compensated users—a trial will convince you.

Condor PRODUCTS

V-Belt	Steam Hose
Transmission Belt	Suction Hose
Cone Belt	Molded Rubber Goods
Air Hose	Oilless Bearings
Acid Hose	Hard Rubber Pot Eyes
Water Hose	Rubber Lined Tanks
Fire Hose	Rubber Covered Rolls

Write for new General Catalog

Sold by leading jobbers

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES and FACTORIES, 22 TOWNSEND ST., PASSAIC, N. J.

"Just Around the Corner"

AMERICA'S INDUSTRIES FIND CRANE STOCKS

• Crane service in valves, fittings, and piping is a *localized* service. Within 24 hours of every factory in the United States, and within one to two hours of a great majority of them, complete stocks of Crane valves and fittings are available.

The Crane line is extensive, capable of answering the daily requirements of the 209,348 industrial establishments within the service areas where Crane stocks are carried.

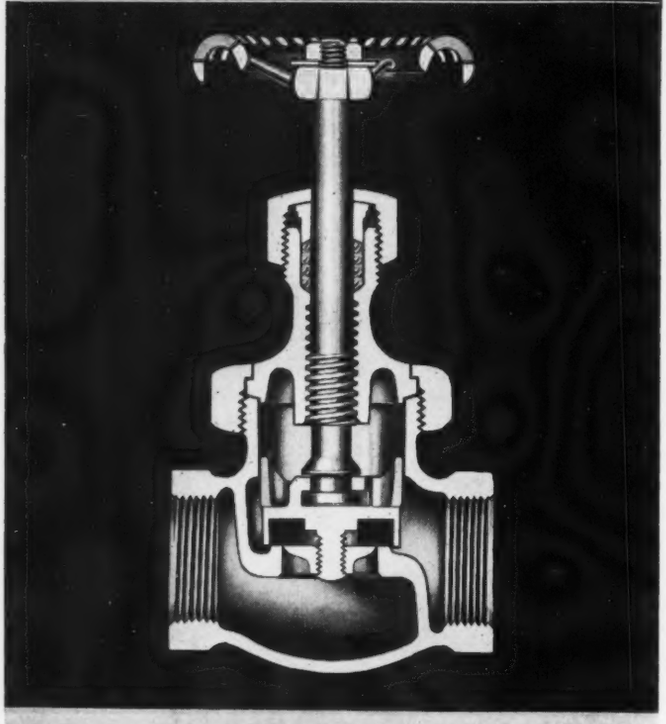
Crane materials will help you solve any piping problem. If extensive modernization is contemplated, the Crane Finance Plan allows you to spread the cost over a period of years.

CRANE SHOP FABRICATION SERVICE

Design — Flanging
Casting — Cutting
Bending — Threading
Welding — Assembling

There is a Crane Valve or Fitting for every piping requirement

VERSATILE



Crane No. 7 All-Purpose Brass Globe Valve

1 An all-purpose valve, with various compositions of renewable discs available for your service condition.

2 Valves for steam service regularly fitted with CRANITE discs, an exclusive Crane disc.

3 A true union bonnet joint permits frequent and rapid disassembly of valves when necessary to renew discs.

4 An ideal valve for general industrial plant standardization.

5 Sturdily built of high grade materials and rated for 150 pounds steam working pressure.

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO, ILLINOIS • NEW YORK: 23 W. 44TH ST.

Branches and Sales Offices in One Hundred and Sixty Cities

CRANE VALVES, FITTINGS AND PIPE FABRICATION

NON-ABSORBENT TO DYES

RESISTANT TO DYE-LIQUOR CORROSION

NO BOILING-OUT NECESSARY

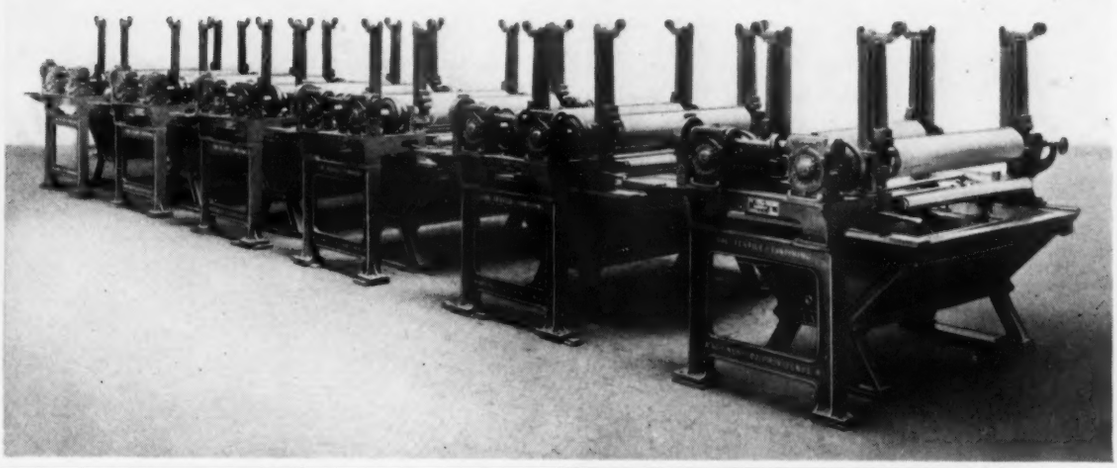
NO DAMAGE TO DELICATE FABRICS

These

DYE JIGS

don't cause Off-Color Troubles by rust, corrosion, contamination

Battery of Dye Jigs, for shipment to a large foreign finishing mill. These jigs have individual motor-drive, as well as tanks, lined with Monel Metal. Manufactured by The Textile-Finishing Machinery Co., Providence, R. I.



Their tanks are lined with MONEL METAL

WOULDN'T you like to say "Goodbye" to production hold-ups that are the direct result of unsuitable materials used in dyeing machines?

If so, do as many other dyehouse operators, and in particular, as the foreign buyer of this battery of dye jigs did . . . select machines that utilize the advantages of Monel Metal.

Monel Metal for tank-linings of dyeing machines is so stable that there is no harmful re-action to most dyestuffs. Consequently, off-color troubles are largely eliminated.

Unlike wood, Monel Metal is so completely non-absorbent to dye liquors that there is no loss of liquor from absorption, while at color-changing time, no boiling out is necessary.

Monel Metal is solid through and through. There is no coating to chip, peel or wear off.

And due to the wear resistance of its polished surface, rough spots do not develop to damage even the sheerest fabrics. Glossy-smooth. Splinter-free.

There's nothing untried about Monel Metal . . . it has been the preferred metal for many kinds of dyehouse equipment for more than 20 years.

Let us send you a copy of "Where to buy Monel Metal Textile Equipment."

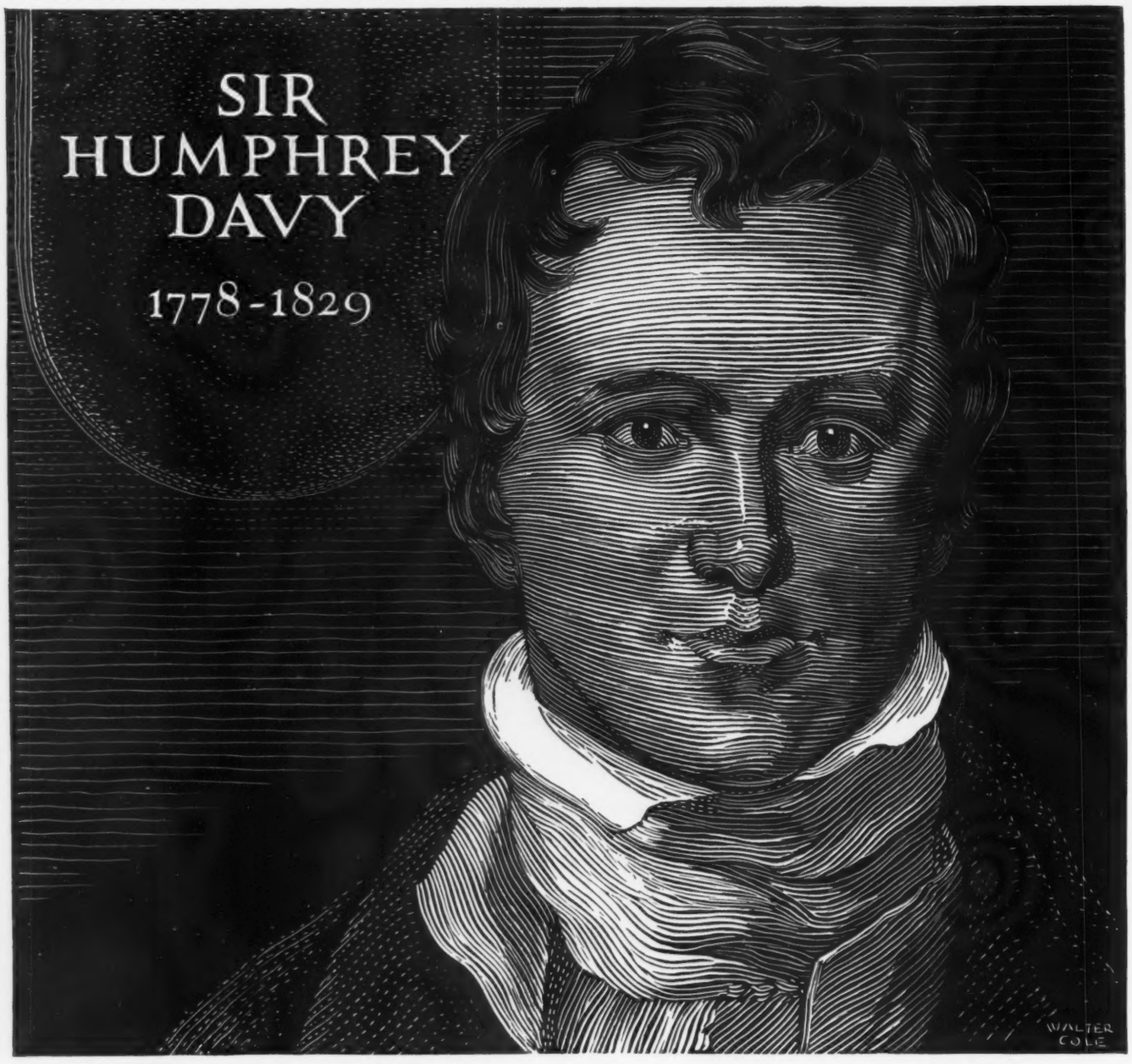
THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET NEW YORK, N. Y.

MONEL METAL

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

NUMBER THREE OF A SERIES OF FAMOUS PIONEERS IN CHEMICAL HISTORY



Apprenticed to a surgeon and apothecary at the age of fifteen, Davy was appointed to the Royal Institution in 1801 at the age of twenty-three and was knighted eleven years later. His health failed, however, while he was still at the height of his career and he died in 1829 at 51. Davy is said to have been one of the first to use the electric current for thorough and fundamental chemical investigation.

IN 1807 fashionable London paid twenty pounds a head to watch Sir Humphrey Davy at the Royal Institution perform the miracle of the age—to see him produce small quantities of metallic sodium by means of a new-fangled electrical apparatus. Davy's epoch-making discovery and his pioneer work with Faraday in experimental electricity marked the beginning of the modern electrolytic process for manufacturing caustic soda. Mathieson, pioneer producer of high purity caustic soda both by the electrolytic and ammonia-soda processes, has also pioneered the distribution of caustic soda in liquid form to large consumers. Mathieson Caustic Soda is now supplied to industry from three strategically-located producing points — Saltville, Va., Niagara Falls, N. Y. and Lake Charles, La.

The MATHIESON ALKALI WORKS (*Inc.*), 60 East 42nd St., New York, N.Y.

SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH AND HTH-15 . . .

Mathieson Chemicals

AMMONIA, ANHYDROUS AND AQUA . . . PH-PLUS (FUSED ALKALI) . . . SOLID CARBON DIOXIDE . . . CCH (INDUSTRIAL HYPOCHLORITE)